



REPORT  
ON THE  
Enquiry into the Rise of Prices in India

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(*Fellow of the Royal Statistical Society*)

AND  
A Resolution of the Government of India reviewing the Report.

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THE rise in prices in India, though in evidence from an earlier date, began to attract general notice from about the year 1907. In 1910 the Government of India decided to undertake a full and detailed investigation of the problem, and the task was entrusted to Mr Datta, a senior and experienced officer of the Finance Department, assisted by Mr Findlay Shirras, late professor of Economics of the Dacca College, and Mr S D Gupta of the Finance Department. Mr Datta was instructed to tour throughout British India, to collect and analyse the relevant statistics, to ascertain the views of both the official and non-official community, and to report his conclusions to the Government of India. The specific points referred for investigation were —

- (1) What has been the actual rise in prices in India during the past fifteen years? Has the rise affected all commodities alike or is it specially marked in the case of food grains? Are there marked differences in respect of enhancement of prices as between different areas?
- (2) To what extent is the rise in prices due to what may be styled "world factors," and how far may it be ascribed to local conditions?
- (3) Does it appear that the rise is a permanent feature or is it only temporary?
- (4) If it be more or less permanent, what are its probable economic effects on the country as a whole, and on the different sections of the community?

2 Mr Datta was placed on special duty in 1910. His report was received in 1913, and the complete subsidiary volumes of statistics, on which it is based, were finally ready by April 1914. The Government of India desire to place on record their appreciation of the care and industry which Mr Datta and his assistants brought to bear on their arduous task. The report with its statistical appendices constitutes an almost complete survey of the progress achieved during the past 22 years. It brings together, and exhibits the interrelation of, a mass of statistical material, drawn from a wide variety of sources, and illustrating the many-sided evolution of the country. Whatever view may be taken of the conclusions reached in regard to individual issues arising out of the terms of reference—some of which inevitably involve controversial points of economic theory—the report as a whole must be recognised as a very valuable contribution to the recent economic and financial history of India.

3 The general course of prices is indicated in the following table, taken from page 29 of the report, which exhibits the variations in average wholesale rupee prices, during the years 1890 to 1912, of different groups of articles, for the 24 more or less homogeneous economic circles, into which, for the reasons noted in Chapter II of the report, Mr Datta has divided India exclusive of Burma and the Native States. The figure 100 represents in this table the average wholesale price of each group of commodities for the years 1890 to 1894, which have been selected by Mr Datta as the standard or basic period for the purpose of estimating the fluctuations in the price level, and the prices of each group in the different years are accordingly shown as percentages of this figure.

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\* Wholesale prices have been used for the reasons noted by Mr Datta on page 29 of the report, viz, that they are more sensitive than retail prices in reflecting industrial and trade conditions, and that retail prices in India correspond in their movements generally with wholesale prices, because the cost of retailing is extremely small.



Years	Food grains— Cereals	Food grains— Pulses	Sugars	Tea and coffee	Other articles of food	Oilseeds, oils and oilcake	Textiles—Jute	Textiles—Cotton	Other textiles	Hides and skins	Metals	Other raw and manufactured articles	Building mate- rials	General average
1890	93	97	99	95	99	97	92	102	101	95	98	100	99	97
1891	99	100	100	94	97	98	94	96	97	95	98	98	99	98
1892	110	107	98	103	101	101	105	95	95	96	100	99	99	103
1893	103	101	102	98	103	104	103	105	104	105	100	102	101	102
1894	95	95	101	110	100	100	106	102	103	109	104	101	102	100
1895	94	102	98	100	94	104	103	102	99	120	105	106	104	101
1896	109	114	98	94	99	109	104	102	92	111	104	108	107	106
1897	148	159	101	83	110	114	92	98	88	109	105	103	109	121
1898	109	115	100	78	110	101	89	91	84	113	106	101	112	106
1899	100	102	97	71	109	101	97	87	94	124	122	103	113	104
1900	134	139	104	67	120	122	109	108	88	115	137	112	116	122
1901	116	130	101	66	117	118	101	104	83	118	121	107	118	116
1902	109	116	91	65	108	114	95	102	84	126	116	104	120	111
1903	101	106	92	66	106	100	103	106	93	136	116	106	122	107
1904	97	99	96	65	106	95	109	121	91	141	113	110	125	106
1905	112	115	105	65	115	112	127	113	98	148	115	112	128	116
1906	132	140	99	65	124	132	157	121	98	164	126	118	131	129
1907	139	147	99	72	125	141	154	123	102	161	137	123	134	133
1908	168	179	106	68	124	145	119	121	86	150	121	122	136	143
1909	146	148	109	71	124	131	111	119	93	152	116	122	138	133
1910	127	124	112	79	130	143	119	141	96	164	118	127	142	132
1911	126	122	109	83	133	149	144	145	95	159	119	126	146	134
1912	143	141	111	85	136	156	160	137	98	172	128	132	149	141

#### 4 It will be seen from the above table that—

(1) Apart from a slight rise in 1892-1893, the price level was fairly steady from 1890 to 1895. With a severe famine prevailing over a large part of India, the general index number rose to 106 in 1896, and 121 in 1897. The rise was practically confined to food grains, other articles of food and oilseeds. Agricultural conditions were generally favourable in the two following years, and food grains fell to about the level of the basic period. There was a considerable rise however, under hides and skins, metals, and building materials, and the general level stood at 106 in 1898 and at 104 in 1899.

(2) With the advent of famine conditions in Northern India, the Central Provinces and Bombay, the general price level rose again in 1900 to 122. The proportionate increase was greatest under food grains and oilseeds, but was shared by almost all classes of commodities. In the following three years, the prices of food grains and oilseeds fell rapidly, the index numbers for 1904 being lower than the average of the basic period. Hides and skins and building materials continued to rise. The price of textiles (cotton) rose to 121 in 1904, and that of textiles (jute), after a fall in 1901-1903, to 109. The general level stood in 1904 at about the average of the years 1898-1899.

(3) From 1905 to 1908 prices rose rapidly and continuously. The general level rose to 116 in 1905, to 129 in 1906, and 133 in 1907. The highest point (143) was reached in 1908 when famine conditions prevailed in Northern India. The general average fell in the next 3½ years, but that for 1912 was only slightly below the figure of 1908. The rise during this period extended to almost every kind of commodities.]

5 The table on page 30 of the report, exhibiting the quinquennial average index numbers of wholesale (rupee) prices, indicates that the increase in prices in the years 1908-1912 has been most marked in the case of hides and skins, oilseeds, food grains, and building materials, which have risen 40 per cent or more above the level of the basic period 1890 to 1894. The quinquennium 1908-1912 includes, however, the famine year 1908 and does not therefore accurately represent the proportionate rise in the various classes of commodities. A better index is the average of the triennium 1910-1912. During these years the proportionate increase as compared with the basic period has been greatest in the case of hides and skins (65 per cent), raw cotton (58), raw jute (58), oilseeds (49), building materials (45). Food grains have risen 30 per cent, cotton manufactures 31 per cent, and metals 22 per cent.

6 The report analyses in some detail the local variations in the price level. Comparing the general average of prices in the years 1910-1912 with those for the basic period, the smallest increases (under 33 per cent) are shown by the ports (except Karachi) and in Assam where prices in the earlier years were somewhat above the general level. The rise has been greatest (38 per cent and over) in Karachi, parts of Madras, Berar, Sind, the Bombay Deccan and the Punjab. In the quinquennium 1908-1912 the increase has been most marked, (40 per cent and over) in Karachi, Bundelkhand, Berar, Sind, South Madras, the north and west of the United Provinces, the North-West Frontier Province, the Punjab and the Bombay Deccan, and has been lowest (below 35 per cent) in the ports of Calcutta, Bombay and Madras and in Assam. The variations reflect, it is clear, the agricultural conditions obtaining in the different circles during the years selected for comparison with the basic period. Taken as a whole, the provincial statistics illustrate strikingly the extent to which the development of communications has tended to equalise prices throughout the country.

7 Mr Datta traces the rise in prices above analysed in part to causes peculiar to India, and in part to causes which have influenced the price level throughout the world. Under the former head the causes suggested are a comparative shortage throughout the period under enquiry in the production of food stuffs, the increased demand for India's food products and raw materials, both in India itself and in world markets, the development of communications, internal and external, the decrease in the cost of transport, and the growth of banking and monetary facilities. Under the head of world's influences he distinguishes the increased supply of gold, the development of credit, the destruction of wealth in recent wars, and the expenditure on armaments. In Mr Datta's view, it is in the combined action of these numerous factors that the explanation of the great rise in Indian price levels is to be found.

8 As will be shown later, the relative importance of causes which may be classed as peculiar to India, and of causes which fall rather under the head of world influences, has varied greatly in the course of the years under review, and the latter have been on the whole the dominant factor in the upward movement of Indian prices. This movement has, nevertheless, been conditioned throughout by developments of an internal order, and amongst these Mr Datta justly selects for special mention the great expansion of communications. As shown in the tables

on pages 78, 79 and 82 of the report, between 1890 and 1912 the mileage of Indian railways rose from 15,865 to 31,981, the passenger and goods traffic more than trebled, and freight charges fell on the average by 28 per cent. During the same period the length of metalled roads increased from 36,400 to 51,900. This development in the means of communication, apart from its levelling effect already referred to, has brought all parts of the country into much closer touch with foreign markets and has thus immensely facilitated and enhanced the influence in the direction of a rise which, as will be brought out further on, these markets have exercised on Indian prices.

9 Another factor of smaller, though still considerable, efficacy has been the improvement in banking and monetary facilities. Relatively to the immense developments in western countries, the Indian banking system is still in its infancy. Remarkable progress has nevertheless been made of late. As indicated in paragraphs 214 to 218 of the report, the paid up capital and reserves of the Presidency and major joint stock banks (excluding the exchange banks) increased by 55·7 per cent during the decade ending 1911. Private deposits available for commercial enterprise in the Presidency and joint stock banks, including exchange banks, rose from an average of about 26 crores in the five years 1890 to 1894, to an average of 61 in the quinquennium 1905 to 1909 and of 83 in the years 1910 and 1911. The increase has been exceptionally rapid since 1900. The deposits, which in that year amounted to 31 crores, rose to 51 crores in 1905, 73 in 1909, 82 in 1910, and 85 in 1911. Again, between 1890 and 1912 the value of the cheques cleared at the clearing houses in Calcutta, Bombay, and Madras increased from 138 to 517 crores. There can be no doubt that, as observed by Mr. Datta (page 83, paragraph 214, of the report), the extended use of credit has had an important effect on prices.

10 A still greater influence has been attributed in some quarters to the large additions which, as shown in the table on page 90 of the report, were made to the monetary circulation, during the years 1903-04 to 1907-08, by the coinage of new rupees. It has been suggested that these additions were excessive, and in the long run largely contributed to, if they did not wholly cause the exceptionally great rise in Indian prices. The facts set forth on pages 88 to 94 of the report indicate what little foundation there is for this suggestion. As shown on page 88 (paragraph 229) whenever the Government of India have coined more rupees, they have been compelled to do so by the depletion of their reserves, due to the demands of trade. In 1902-03 the percentage of the rupees held in the currency reserve to the total circulation of currency notes was 30·6, in 1903-04, 30, in 1904-05, 28·7, in 1905-06, 30·4, in 1906-07, 29·2, while in 1911-12, when coinage was again resumed, after having been in abeyance for some years, it fell to 25·1. Moreover, as Mr. Datta has clearly brought out on pages 91-92 (paragraphs 233 and 234), whilst the volume of metallic currency has expanded greatly since the year 1890, there is nothing to indicate that the increase has been larger than what has been required by the growth of business transactions. As far as can be judged from the suggestive statistics (page 93, paragraph 234) in which Mr. Datta has collated the leading data relating to external and internal trade, railway traffic, post office and treasury transactions, the capital of joint stock companies, the consumption of rice, wheat and coal, and the production of jute and cotton, the expansion of business as a whole has probably been more rapid than that of the metallic currency.

The Indian currency system of to-day is, in fact, as Mr. Datta brings out (page 88, paragraph 228) really quite as automatic as it was previous to the closing of the mints to the free coinage of silver. Additions to the rupee coinage are determined by the needs of the trade of the country, and the action of the Government is

confined to fixing the amount of fresh coinage which it is desirable to undertake at any particular moment. If its action should prove inadequate, trade demands will force on further coinage, if it should be excessive, the surplus rupees simply lie in the currency reserves till called forth by further trade demands. A rise in prices which is not the result of a diminished supply of commodities must necessarily be attended by an increase in the volume of currency. Both facts are different sides of one and the same phenomenon. But the suggestion above referred to reverses the true order of causation. It has been the increased demand for Indian commodities and the rise in prices resulting, as will be shown later, therefrom, which has necessitated the increased coinage of rupees.

11 Amongst the other possible causes of a rise in prices which are grouped as peculiar to India, Mr Datta devotes special attention to the interesting, but difficult, problem of the relation between the supply of food stuffs and the demand for food as measured by the growth of population. The conclusions he arrived at may best be presented in his own words. "Considering the growth of the population and the increase in the external demand" (he observes on page 61, paragraph 156) "the supply has been short during the greater part of the period embraced in the enquiry. The demand for both internal consumption and exports having increased at a quicker rate than the production of food grains it is only natural that the general level of prices of food grains over a series of years would rise, although in a particularly favourable year it might have fallen to some extent. The food supply in India, compared with the demand, both internal and external reached its lowest level in the quinquennium 1905-09, and this shortage of supply has doubtless contributed, in no small measure, to the unusual rise in prices during that quinquennium." And in the final chapter of the report, summing up the causes of the increase in the price level, he states that 'in recent years the production of food grains has not been keeping pace with population. This would explain the almost continuous rise in the price of food grains' (page 188, paragraph 453). This result is attributed in part to unfavourable seasons, and in part to the failure of the area under cultivation to expand *pari passu* with the population, and on pages 64 to 66 (paragraphs 169 to 175), it is suggested that the substitution of non-food for food crops has to some extent been responsible for the latter circumstance.

12 It is evident that Mr Datta intended these generalisations to be treated as qualified by his remarks elsewhere on the effect of the extended cultivation of non-food crops, and of the increased external demand for India's food products. Thus, on page 66 of the report, he observes that the total area which commercial crops have occupied at the expense of food grains is very small compared with the total area under cultivation of the latter, and consequently the effect of this substitution could not have been very great, and on page 96 (paragraph 240) in discussing the imposition of an export duty on food grains, he points out that the proportion of exports to the total production is ordinarily very low, not rising even in exceptionally favourable years much above 4 per cent. An even more important qualification is supplied by his confident and evidently well-founded conclusions—to which fuller reference will be made below—as to the generally beneficial effect of the rise in prices. The whole question, however, is one of much obscurity, and it may be convenient to bring together the leading data bearing on the problem.

13 Mr Datta's main statistical results, as far as this question is concerned, are presented in the following table (page 58, paragraph 145), which compares the growth in population with that in the area under cultivation, and in the production of food grains. The figures have reference to the official year ending on the 31st March, and the average of the first quinquennium is denoted by the figure 100, the figures for the years which follow being expressed as percentages of this

	Average of the quinquennium 1890 91 to 1894 95	Average of the quinquennium 1895 96 to 1899 00	Average of the quinquennium 1900 01 to 1904 05	Average of the quinquennium 1905 06 to 1909 10	1910 11	1911 12
Population	100	101 6	103 7	105 7	107 8	108 4
Total area under cultivation	100	98	103	105	108	106
Area under food grains	100	96	101	102	106	103
Production of food grains	100	98	105	99	113	109

As Mr Datta, however, is careful to point out—page 54 (paragraph 134) and page 226 (Appendix D, paragraph 11)—the data from which this table has been constructed are, with the exception of the population statistics, largely conjectural and uncertain. For the immense areas of Bengal, Bihar and Orissa, for about one-third of the Madras Presidency, for the hill tracts in the United Provinces, and in Assam—and, it may be added, for the Native States, which, though excluded by Mr Datta, cannot legitimately be ruled out of account—neither the area under cultivation nor the area under food grains is known with any accuracy, and for such areas Mr Datta had no alternative but to base his statistics of cultivation on more or less arbitrary assumptions. Further, attempts to estimate the total outturn of agricultural produce, even when the area is definitely ascertainable, are beset with insuperable difficulties. The normal yields per acre, the foundation of all such estimates, are notoriously untrustworthy. These yields have been revised from time to time—there has been some revision even since Mr Datta's report was written—but the figures are still far from satisfactory, and the Government of India have had for some time under consideration the substitution of a more reliable agency for the conduct of the investigations from which the yields are ultimately derived. The remaining factor in the calculation, the percentage of the yearly outturn to the normal, is a still more uncertain quantity, resting as it does on district returns, which are little more than loose conjectures, vitiated in particular by a distinct bias in the direction of under-estimation. Finally, the whole mass of material, comprising elements of every degree of validity, has to be reduced by a complicated process of averaging and weighting, and it is evident from a study of the detailed results that here, too, considerable further difficulty has been experienced and divergent methods employed.

In such conditions, the sounder course from the statistical standpoint, is to dispense with the superficial and misleading appearance of completeness, and to consider what inferences are suggested by a less ambitious enquiry, which confines itself to the more trustworthy of the available statistics.

14 The following table shows the total acreage under cultivation and the population during the period 1890 to 1912, in the tracts for which relatively accurate returns are procurable, *viz*, parts of Assam, the United Provinces exclusive of the hill districts, the Central Provinces and Berar, the Punjab, the North-West Frontier Province and the Bombay Presidency.

\* (1) No figures have been included for the Madras Presidency. In one third of that Presidency, as explained in paragraph 13, no accurate data are available. For the remaining two thirds or thereabouts, the figures are sufficiently correct for each year taken by itself, but cannot be used for the purpose of a comparison extending over a series of years, owing to the gradual extension of the reliable statistics, which is due mainly to progress of statistical work in respect of proprietary villages.

(2) Certain small areas in the Bombay Presidency, for which statistics are not available in all the quinquennia, have been omitted. A corresponding deduction has been made in the population figures.

(3) The figures of population in the different quinquennia have been calculated by the method of interpolation on the assumption of equal annual increments.

	Average of the quin quennium 1890 91 to 1894 95	Average of the quin quennium 1895 96 to 1899 00	Average of the quin quennium 1900 01 to 1904 05	Average of the quin quennium 1905 06 to 1909 10	Average of 1910 11 to 1911 12
Area under cultivation in acres	123,480,000	115,352,000	126,217,000	130,253,000	132,018,000
Index No	100	93 4	102 2	105 5	106 9
Population	99 649,000	100,029 000	101,008,000	102 383 000	103,018 000
Index No	100	100 4	101 4	102 7	103 4

Except during the quinquennium 1895-96 to 1899-1900, the figures for which reflect the results of repeated and severe famines, the area under cultivation has expanded more rapidly than the population

15 The area under food grains during the same period was as follows —

	Average of 1890 91 to 1894 95	Average of 1895 96 to 1899 00	Average of 1900 01 to 1904 05	Average of 1905 06 to 1909 10	Average of 1910 11 to 1911 12
Area in acres	101 121,000	93 978,000	101,213 000	103,055,000	103,332 000
Index No	100	92 9	100 1	101 9	102 2
Population	99 649 000	100,029 000	101,008,000	102,383 000	103,018 000
Index No	100	100 4	101 4	102 7	103 4

Excluding again the famine quinquennium 1895-96 to 1899-1900, this table exhibits an almost precise parallelism between growth of population and extension of food cultivation, and the only interpretation which the figures can bear is that the correspondence between the two has been substantially maintained

16 These figures, can however, be supplemented to some extent As already explained, it is idle to attempt any exact estimate of the yield of any given acreage—and without such exactitude, no further progress can be made on purely statistical lines, when a fractional discrepancy only remains to be dealt with But it is known that the cultivated area at the close of the period under review included irrigated land to a considerably greater extent than at the outset, and the consequent improvement of outturn and increased certainty of securing it, must have more than counterbalanced any slight defect in area as compared with population, if indeed any such defect has existed The statistics bearing on this subject, which have been extracted from the records of the Irrigation Department, are tabulated below

*Area in acres irrigated from State owned sources*

AVERAGE OF TRIENNIUM							Average of 1911 12
1890 91	1893 94	1896 97	1899 00	1902 03	1905 06	1908 09	
to	to	to	to	to	to	to	
1892 93	1895 96	1898 99	1901 02	1904 05	1907 08	1910 11	
7,580,884	7,601,620	10,675,722	11,543,631	12,156,391	13,755,121	13,780,891	14 441,922

Area and outturn, moreover, are not the only factors involved An additional factor of crucial importance is the great development of communications already referred to, and its incalculable effect in enhancing the "efficiency" of any given aggregate of food production This principle, which is a truism of famine policy, is also applicable to the conditions of supply in normal years, and its bearing on the question of food supply must not be overlooked

17 As applied to a country like India, which has the world's supplies to draw upon, the conception of an absolute shortage, which appears to underlie Mr Datta's whole treatment of the subject, can have no valid significance. The real problem as regards a country so situated is obviously to determine whether the purchasing power of the people generally has increased. If that has been demonstrated in the case of India, as Mr Datta affirms, it may be confidently inferred that the Indian community has continued to provide itself, to an at least equal extent, with the necessities of life, which constitute its first requirement. In this connection a very relevant consideration is that brought out by Mr Datta on page 189 (paragraph 455), *viz*, that "India has now to part with much less of her produce to meet her foreign obligations for the simple reason that her produce has risen in value in European markets". In virtue of this rise India has been in an exceptionally favourable position for procuring from outside sources such additional supplies of food as she may have needed, though the statistics of imports of food grains on page 97 of the report do not indicate that in fact the internal supply has required to be supplemented in any markedly increased degree. The statistical study of food production, in short, while it has a certain value as suggesting a test by which to qualify conclusions independently obtained, cannot stand alone. In so far, however, as they admit of separate formulation, the following appear to the Government of India to be the principal inferences which can fairly be drawn from this branch of Mr Datta's enquiries.

18 In the first place, strictly speaking, there has been no substitution of non-food for food crops in the country as a whole. The food cultivation area has grown, though the area under commercial crops has increased in a higher proportion, and the more rapid expansion of the cultivation of jute and cotton in certain areas cannot, in view of the very small proportion of the total area which these crops occupy, have exercised any appreciable influence on the general level of food prices.

Secondly, so far as trustworthy statistical evidence is available, it would appear that the area under food crops has increased in almost exact correspondence with the growth of population—a fact which must be held to imply the production on the average of a relatively larger and more efficient food supply, in view of the large extension of irrigation and transport facilities. The statistical data relating to acreage under food crops do not, however, cover the whole ground, as information is admittedly wanting for large areas, and, partly for this reason, and partly owing to the defective character of the information available regarding the other factors involved, no really reliable estimate of the outturn during the period under review can be framed.

Thirdly, as regards export of food grains, Mr Datta has clearly brought out (pages 96—97, paragraph 240) the relative insignificance of the proportion between food exports and food production.

Finally, analysis of the general statistics in regard to the increase of prices elicits the very significant point that there was no sustained upward movement of food prices till after 1904. Even in 1899, very shortly after a large temporary increase definitely attributable to failure of the rains, food prices had reverted to practically the level of the basic period 1890-1894, and in 1904 they fell below it. The causes of the rapid and sustained rise subsequent to this year, which is even more conspicuous in the case of a number of other commodities, must be sought for in a different and independent group of circumstances.

19 The point last mentioned leads up to a distinction, the fundamental importance of which, though not entirely unrecognised in the report, has been





is to this immensely enhanced demand for Indian commodities of export that the relatively larger rise in the Indian price level as compared with that of other countries is probably to be attributed. While the rise since 1904 in the prices of imports, which reflect more accurately than exports the general course of world prices, has been considerable and has assisted materially to raise the Indian level, it has been proportionately much smaller than in the case of exports.

#### Economic effects

22 The social effects of the rise in prices during recent years have been the theme of much discussion in every country. As regards India Mr. Datta's conclusion, as already stated, is that on the whole they have been beneficial. His views on this aspect of the inquiry are summarised in the following extracts from pages 184-186 and 189 of the report —

“ There has undoubtedly been a real progress, an increase of wealth and a general diffusion of it, in consequence of an increase in the profits of agriculture, and a remarkable increase in wages greater than the cost of living in almost all parts of India during the period of rising prices. There has indeed been a very great increase in the annual income of India. Dr. Marshall defines a country's income as ‘ the net aggregate of commodities and capital, material and immaterial, including services, produced annually by the labour of the country acting upon its natural resources ’. It is beyond all doubt that in recent years there has taken place with the development of the resources of the country and the growth of enterprise on the part of the community as a whole, a very considerable increase in this annual income ” (Page 184, paragraph 439 )

“ The standard of living amongst all classes of the population, especially, among landholders, traders and ryots, has increased very considerably in recent years, and extravagance on occasions of marriage and other social ceremonies has seriously increased. The average villager lives in a better house and eats better food than did his father, brass and other metal vessels have taken the place of coarse earthenware, and the clothing of his family in quality and quantity has improved. We may also say that the increase in passenger miles travelled predicates the existence of spare money to pay for railway fares ” (Page 185, paragraph 443 )

“ The wage-earners of all classes and in all circles have secured an increase in wages commensurate with the rise in the cost of living. The only exceptions are domestic servants in cities and other urban areas in a few circles, and wage-earners employed in some industries ” (Page 186, paragraph 445 )

“ Landlords have, except in some special areas, received increased cash rents, cultivators increased profits from agriculture, and wage-earners generally have gained in consequence of their wages having increased more than prices. It is only persons on fixed salaries or dependent on income from securities and shares and professional men who live upon customary fees, who have suffered from the rise in prices, as their income, not being at all elastic, has not risen sufficiently to meet the increased cost of living. The effects on the different sections of the community in different areas have been in the same direction and differ only in degree ” (Page 189, paragraph 455 )

23 That there has been during the last 20 years a remarkable growth in the general prosperity of India is a fact recognised by all impartial observers, and testi-

fied to by all the available statistical evidence. The volume of foreign trade has grown enormously. The quantities of goods carried by rail rose from 23 million tons in 1890 to 48 million in 1903, and 71 million in 1911. The number of passengers by rail increased from 114 million in 1890 to 210 million in 1903, and 390 million in 1911. The value of money orders issued rose from 16.4 crores in 1890-91 to 32.1 in 1903-04, and 48.7 in 1911-12, and the fresh deposits in Saving Banks from 2.68 crores in 1890-91 to 4.66 in 1903-04, and 8.28 in 1911-12. The absorption of gold has been of late on an unparalleled scale, amounting between 1900 and 1911 to no less than 116 millions sterling, as against 27 millions sterling in the preceding 12 years. Great strides have been made in the manufacturing and mining industries. The number of looms and spindles rose, between 1903-04 and 1911-12, in cotton mills from 41,977 and 4,900,106 respectively, to 81,899, and 6,040,760, in jute mills from 18,400 and 376,718 to 32,927 and 677,519, and in woollen mills from 633 and 23,806 to 772 and 29,369, whilst the production of coal has about doubled since 1901. But the most striking evidence perhaps of the improving condition of the people is to be found in the statistics of the import of articles of luxury and convenience such as kerosene oil, apparel, boots and shoes, matches and soap, which increased by 26 per cent between the basic period 1890-94 and 1903-04, and by 74 per cent between the latter year and 1911-12. On all sides there are indications of a higher standard of living.

24 That the rise in prices has contributed to this result is indicated both by the comparatively more rapid expansion under the heads above mentioned since 1904, and by analysis of the statistics of foreign trade. A country necessarily benefits by any special demand for its exports, and as has been shown, the demand for Indian exports has expanded immensely since 1904-1905. Against the gain in this direction has to be set the increased cost which India has had to pay for her imports, but Mr Datta estimates (pages 138-139, paragraph 335 and 336 of the report) that, allowing for the increase in the cost of imports, the annual gain to India through the enhanced prices obtained for her exports amounted during 1900-1901 to 1904-05 to 3.1 crores, during 1905-06 to 1909-10 to 14.7 crores, and during 1910-11 and 1911-12 to no less than 34.2 crores. It is impossible in the face of these figures to doubt that India as a whole has benefited by the rise in the price level since 1904. It is a matter of greater difficulty to measure the resulting gain or loss to different sections of the community. Adequate data do not in fact exist for any precise and minute measurement of changes in real income or real earnings. Comparison between the prices of goods produced or wages earned, and the prices of goods most commonly consumed, furnishes, however, a rough index of the effects of the rise in prices on the various classes.

25 The most important section of the community are the cultivators, who comprise, according to the census of 1911 (Volume I, Part II, Table XV) more than half the total population. As a rule cultivators grow their own food, and to ascertain therefore the changes in their real income resulting from the rise in prices, comparison has to be made between their expenditure as measured by their payments for rents or land revenue, wages and commodities purchased, and their income as measured by the prices secured for produce sold. The general conclusion to be drawn from this comparison is unmistakable. On the income side, in the quinquennium 1908-1912, the wholesale price of raw jute was 43 per cent above the level of the basic period 1890-1894, that of raw cotton 45 per cent, of hides and skins 59 per cent, of oil seeds 45 per cent, of food grains (cereals) 42 per cent, and of food grains (pulses) 43 per cent. On the expenditure side, cotton manufactures, the largest item in the normal expenditure of the cultivator, rose only 25 points, the cost price of salt fell by 3 per cent apart from the reduction of the general rate of duty from Rs 2-8-0 to Re 1-0-0 a maund, metals rose 20 per cent

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and sugar 9 per cent, while kerosine oil shows no great increase. The movements of rents have varied greatly in different areas, and as regards the different classes of tenants. Grain rents, as measured by their cash value, have no doubt risen proportionately to the rise in prices, but cash rents in general have lagged behind prices, whilst the enhancements of land revenue in ryotwari areas, so far as attributable to the rise in prices, have been comparatively small. Wages have risen more rapidly even than prices. But, on the balance, the gain in real income is manifest.

26 The valuable wage tables prepared by Mr Datta point to a great improvement in the condition of the wage-earning population. The collection of reliable statistics of wages has always been a matter of great difficulty in India, and Mr Datta's figures do not in all respects agree with those of the wage census carried out in the years 1911-1912. There is no reason to doubt, however, that they represent with sufficient accuracy the broad trend of wages. In many countries wages have only slowly adapted themselves to the rise in prices, and the necessary readjustment has been attended with much social friction. But in India circumstances have favoured the wage-earner. The increasing profits of agriculture, which, as shown in Mr Gait's report on the census of 1911 (Volume I, paragraph 530) have enhanced the demand for labour on the land, the demand for labour on public works, the expansion of the factory industry already referred to, and in parts the mortality from plague\* have combined to promote a great and rapid increase in wages during recent years.

27 Agricultural labourers still constitute the largest section of the labouring population. For many reasons changes in the real income of this class are peculiarly hard to measure. Payment in kind is still common, there are great variations in the continuity of employment, and in parts hereditary or customary obligations affect the rate of remuneration. But the statistics, compiled by Mr Datta, of cash wages paid to independent labourers indicate roughly the general movement of earnings since the basic period. As compared with this period, cash wages, by 1912, had nearly doubled. When every allowance has been made for the disturbing factors above alluded to and the rise in prices, Mr Datta's estimate (Volume III, Statistics, page 203) of an increase of 38 per cent in real income in 1912, as compared with the basic period 1890-1894, seems fully justified.

28 Equally or little less remarkable has been the rise in the real earnings of general labourers and artisans in villages, urban areas and cities. The statistics show advances in money wages ranging from 77 to 98 per cent since the basic period. The case of factory hands, however, is more complicated. Wages in factories were in the earlier years above the general level, the rate of increase has accordingly been smaller, and has varied much, both as between different

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\* It is important not to overestimate the economic effects of plague which, though a grave calamity accounted only for a small proportion of the total deaths in the period under review, and left large tracts of India practically unaffected. Out of 132½ million deaths reported in British India between 1896 and 1913, rather less than 7 million deaths were attributed to plague.

This opportunity may be taken of correcting some statements on this subject in paragraph 71, page 26, of the report —

(1) The report states that, between the first official intimation of plague and the census of 1901, 2 million had died of the disease. The correct figure is about 424,000.

(2) The report states that the mortality in the town of Dinga in 1907 was 119.20 per mille. It should have been added that the population of this town was only 5,412, so that it cannot be taken as a general index in regard to the Province.

(2) The report states that "since the Black Death of the 14th century, there has never been such mortality from plague as in India between 1896 and 1912." The Government of India are not aware that authority exists for this categorical statement.

industries, and as between factories of the same kind in different provinces. In the absence of detailed family budgets, which Mr Datta found it impossible to prepare, and of information as to periods of unemployment and overtime, no exact comparison of nominal and real wages can be made. Wages, however, have been rising rapidly in all factory industries since 1903, and it seems fairly certain that in the jute, wool, leather and mining industries, in the paper industry as a whole, and in the cotton mills of Calcutta, the United Provinces and the Central Provinces, they have risen faster than the cost of living. In the cotton mills of the Bombay Presidency, however, where wages in the basic period were higher than in other parts, and are still relatively high, and in those of Madras, it is doubtful whether the rise in money wages, considerable though it has been of late, has fully kept pace with the rise in prices.

29 Wages on railways exhibit similar variations. In Sind, Gujarat, and in the Bombay Deccan, where in the basic period they ruled high, wages have possibly lagged behind prices of late. But on the whole the wage-earners on railways seem to have secured increases in pay more than proportionate to the increase in the cost of living. The same is true for the most part of domestic servants.

30 In the case of the upper and middle classes, material is lacking for any but the most general estimate. The considerable expansion in the income tax receipts suggests, what indeed would seem to be obvious, that for the trading community the period has been one of growing prosperity. Cultivating proprietors have undoubtedly benefited, while in the case of landlords it has to be remembered that, if rents have risen less rapidly than prices, on the other hand, as indicated by Mr Datta on page 145 (paragraph 345) of the report, "the share of the increased profits taken by Government as the supreme landlord is a comparatively small part of the total increase which has accrued from the rise in prices." Persons on fixed incomes have certainly suffered, and it is Mr Datta's opinion that the professional classes too have been adversely affected, but the circumstances of this section of the community do not appear to have been made the subject of detailed statistical investigation. It may be observed, however, that in the case of the lower paid Government servants, civil and military, various measures in the direction of increased pay have been taken of recent years.

31 It has been shown that the prolonged rise in Indian prices dates from the year 1905, and that its ultimate origin must be sought in causes which have been operative throughout the civilised world. As the growth of communications within India has tended to equalise prices throughout the country, so the parallel development of communications with foreign countries has tended more and more to bring Indian prices into line with those of the world in general. The prices of Indian exports are governed by those prevailing in the world's markets, and through the growing influence of foreign trade, Indian prices, apart from temporary fluctuations resulting from the character of the seasons, tend to follow the same course as world prices. The problem of the future course of prices in India is one therefore to which no solution can be found in the analysis of Indian conditions only. It is essentially bound up with the question of the movement of prices throughout the world. Prices have so far shown no sign of reverting to former levels. As regards the future, the factors involved even under normal conditions of evolution, are too numerous, too complex, and too incalculable in their operation to warrant any definite and confident prediction, and the normal course has now been interrupted by the catastrophe of general war, the total effect of which upon the highly organised western systems of production, trade and finance it is quite impossible to forecast.

Ordered that a copy of the foregoing Resolution be forwarded to all local Governments and Administrations, to the several Departments of the Government of India, to the Financial Adviser, Military Finance, to the Heads of Departments subordinate to this Department, to the Comptroller and Auditor General

Also to all Chambers of Commerce and to the Secretary and Treasurer, Banks of Bengal, Bombay and Madras

Ordered also that it be published in the *Gazette of India* for general information

# Report on the Enquiry into the Rise of Prices in India.

## CHAPTER I.

### Introductory.

FOR some time previous to the decision of the Government of India to undertake an enquiry into the rise of prices, there was evidence of a widespread feeling that the continued rise of Indian price levels urgently called for investigation. The matter had not only been the subject of articles in newspapers and journals, and public speeches in various parts of India, but had also been ventilated in three successive sessions of the Imperial Legislative Council. There was, too, the existence of a constant demand from publicists, students of Economics and others for reliable statistics in regard to prices and wages, the lack of which was very keenly felt, facts were required which should be collected in such a manner as to carry their own conviction. The most important feature of the general economic situation in India in recent years has been a steady and persistent rise in the general price level. When the economic history of the country for the last two decades comes to be written, the most noticeable feature will be the rapid and continuous advance in prices, and the consequent increase in the cost of living.

The origin of the enquiry.

2 This, however, is a phenomenon which has not been confined to India alone. It has manifested itself in most countries of the world. In every advanced industrial country it is stirring deep discontent among the wage-earners, who find the price of food and other necessities of life rising faster than their money wages, while the rise in interest and the shrinkage in the value of the older securities, which accompany it, are producing grave disturbances in the financial arrangements of the business classes. Labour disputes have been rife in England, Germany, France and America, the leading note in every case being a protest against the rising cost of living and a demand for higher wages to meet extra expenses. The slow adjustment of wages to prices has undoubtedly been the economic cause of the discontent. On every hand an explanation is being sought for an economic phenomenon which has appeared simultaneously in every country of the commercial world. The rise in prices has been too general to be satisfactorily accounted for by any combination of special causes operating in different countries, while its persistence for some fifteen years requires us to assign a less temporary cause than the failure of this or that harvest. It is, therefore, necessary to seek for some common influence or influences, that will not only explain the general advance of prices in the world markets, but will also account for prices not returning to their old level after these temporary causes had ceased to act. Specific enquiries into the extent of the rise have been carried out in the United States, Canada, England, France, Austria, Spain, Italy, New Zealand, Australia and other countries. An international conference on the cost of living was suggested last year by President Taft to the Congress (U S A).

The rise of prices not confined to India

3 In March 1910, I was appointed to conduct an enquiry into the rise of prices in India assisted by Mr G Findlay Shirras, M A, F S S, I E S (then

Professor of Economics in the Dacca College) and Mr S D Gupta, M A , F S S (of the Finance Department) Messrs Shirras and Gupta joined their appointments in May 1910

The terms of reference.

4 The terms of reference on which I was asked to report are as follows —

(1) What has been the actual rise in prices in India during the past fifteen years ?

Has the rise affected all commodities alike, or is it specially marked in the case of food grains ?

Are there marked differences in respect of enhancement of prices as between different areas ?

(2) To what extent is the rise in prices due to what may be styled "world factors," and how far may it be ascribed to local conditions ?

(3) Does it appear that the rise is a permanent feature or is it only temporary ?

(4) If it be more or less permanent, what are its probable economic effects on the country as a whole, and on the different sections of the community ?

The object of the enquiry

5 The object of the enquiry has thus been to ascertain the extent to which prices of different commodities and the general price level have risen in the different parts of India, and the causes and effects of such rise It has, therefore, been necessary to divide India into areas of economic homogeneity as far as possible, to collect and tabulate statistics of prices and wages in these areas and a variety of other statistics which usually have a bearing on prices and, then, to examine the facts and statistics collected, in the light of economic laws

## CHAPTER II.

### Preliminary steps of the Enquiry.

#### DIVISION OF INDIA INTO ECONOMIC CIRCLES

6 In order to differentiate between the price levels in the different parts of the country, India has been divided, as already mentioned, into a number of homogeneous circles, for each of which statistics have been separately compiled. India being a land of many countries, it is expedient to collect and correlate statistics for areas which are more or less homogeneous. Without this division it would be impossible to say whether the rise in price levels has been confined to certain areas, or whether it has been general throughout India. In short, it is necessary to establish units of study, so that after a thorough examination of the movements of prices in the several units, we can ultimately generalise for India as a whole.

British India divided into economic homogeneous areas.

7 For statistical analysis, all the Provincial divisions, into which India is divided for administrative purposes, are not compact or homogeneous enough to be handled with advantage. Economic statistics of such wide areas as those comprised in Bengal, the United Provinces of Agra and Oudh, Bombay or Madras, would be of little more value than those relating to the whole of India itself. Within the Provinces are wide differences dependent, for the most part, on a combination of different physical conditions and other circumstances. Further sub-division must, therefore, be resorted to before any reliable conclusions can be drawn from the mass of statistics collected. On what principle should such sub-division proceed? At first sight the differences in the meteorological conditions of the different parts of India are those that arrest our attention. In a country where from 50 to 84 per cent of the population depend for their living on the land, where a short or untimely monsoon portends disaster that may even culminate in a widespread famine and where, on the contrary, seasonable rain conjures up immediate prosperity, one is tempted to assume that a classification by zones of rainfall and humidity is all that is required for an economic division. But there are other factors, also, which play no less an important part in the economic condition of the country. In some areas, irrigation canals have rendered large tracts independent of the local rainfall and have transformed deserts into populous and fertile corn fields. In others, the physical conformation of the surface cannot be ignored. On the whole, economic homogeneity has to be determined by no one single and exclusive factor but by a careful examination of all the factors that affect the economic condition of the country, viz., meteorological conditions, nature of the soil, conformation of the surface, the conditions under which agriculture is carried on, density of population and the habits of the people, immunity from or liability to famine, similarity of production and consumption, etc.

The basis of the division into such circles

8 Economic homogeneity is indeed a vague term, and homogeneous areas, even homogeneous districts, fulfilling entirely the above definition, are certainly few. Districts of which the predominating features are the same, have been grouped together to form a circle, and British India, excluding Burma, has been divided into 20 circles, besides the four ports of Calcutta, Bombay, Karachi and Madras, which, for reasons mentioned below, have been treated as independent circles. In making this division the present administrative provincial boundaries have been disturbed as little as possible. A proper



economic division of India should, rightly speaking, consist of a much larger number of circles, but the compilation of separate statistics for each of these for so many years would be too enormous a task. I have, therefore, kept the number of circles as low as possible, consistent with the object of the division.

Burma excluded  
from the scope of  
enquiry

9 Under orders of the Government of India, Burma has been excluded from the scope of the enquiry, though price statistics of Rangoon and the other parts of Burma are published separately. The main reason for excluding Burma is that the statistics of prices available in regard to it are too meagre to form the basis of any satisfactory conclusions. It was not found possible to collect reliable and sufficient data for the nineties from most of the districts. Upper Burma was annexed only three years before the period under investigation, and it was in a disturbed state for some years, commerce and trade were unsettled and there are very few merchants or firms now, who have been carrying on business in Upper Burma since the nineties and have preserved accounts. From the meagre statistics that could, in the circumstances, be available, it would not obviously be safe to draw any conclusions regarding the rise of prices in Burma. Exception might be taken to the exclusion of Burma from the scope of the enquiry on the ground that it is "the granary of India" and exports a large quantity of rice to India. It should, however, be borne in mind that Burma is really a separate country and the economic conditions prevailing there are essentially different from those of India proper.

Native States also  
excluded

10 Under orders of the Government of India, Native States have also been excluded from the scope of the enquiry.

The ports have been  
treated as separate  
circles,

11 As already mentioned, the four chief ports—Calcutta, Bombay, Karachi and Madras—have been treated as four separate circles, because the conditions prevailing at these ports are totally dissimilar to those in the remaining parts of the divisions in which these ports are situated. The price quotations at the ports are extremely important for comparative purposes. They have a relation with upland prices, as well as with the prices in the world markets. Again, the number of articles for which price quotations are available are very much greater than at other centres. The modern economic conditions are also more pronounced in these port circles. Calcutta, for example, has within itself and its neighbourhood over 50 jute mills, over 30 oil mills, 20 ironworks, 15 cotton mills, 15 flour mills, 8 shellac factories, 9 rope works, 7 saw mills, 7 silk mills, 7 tanneries, 4 bone mills, 3 ice mills, 1 paper mill, besides sugar factories, chemical works, and a host of minor enterprises, its export trade in jute and jute manufactures is of the annual value of 31 crores of rupees, its tea exports, of the annual value of over 8 crores, its oil exports, of 6 crores. Calcutta also controls some 200 coal mines and 300 tea gardens. For these reasons, the ports of Calcutta, Bombay, Karachi and Madras have been taken as units of independent study.

There are twenty-  
four circles in all.

12 British India, excluding Burma, has thus been divided into twenty-four circles (including the four sea ports), the homogeneity of which has been decided on only after careful statistical examination and, in most cases, consultation with local officers.

Details of the  
economic circles

13 The administrative divisions and the economic circles into which I have divided India are shown in map No. 1, and their details are given in the statement on page 5. A brief description of the special features of each circle will be found in Appendix A.

Administration or Province	Economic Circles	Districts comprised in each Circle	POPULATION (IN THOUSANDS) AND PER ACRE OF CULTIVATED LAND		TOTAL ACREAGE SHOWING PRINCIPAL CROPS (IN THOUSANDS OF ACRES)			Percentage of each crop to total in column 7	Percentage of each crop to total in column 8
			1901	1911	Principal crops.	Annual average acreage 1890 91 to 1894 95	Annual average acreage 1907 08 to 1911-12		
1	2	3	4	5	6	7	8	9	10
Assam	Assam	Brahmaputra Valley — Lakhimpur, Sibsagar, Nowgong, Darrang, Kamrup, Goalpara Surma Valley — Sylhet, Cachar Hill Districts — Garo Hills, Khasi and Jaintia Hills, Naga Hills, Lushai Hills	5 842 1 098	6,714 1 186	Rice	3,898	4,299	73.3	76.0
					Oilseeds	277	313	5.2	5.5
					Tea	326	348	6.1	6.1
					Others	820	699	15.4	12.4
					TOTAL	5,321	5,659	100	100
Bengal	Bengal, Northern and Eastern.	North Bengal — Jalpaiguri, Rungpur, Dinajpur, Malda, Rajshahi, Bogra, Pabna East Bengal — Mymensingh, Dacca, Tipperah, Faridpur	19,750 1 215	21,912 1 365	Rice	9,849	9,532	60.6	59.4
					Other food grains	1,776	1,107	10.9	6.9
					Oilseeds	1,446	1,491	8.9	9.3
					Jute	1,837	2,307	11.3	14.3
					Others	1,353	1,614	8.3	10.1
					TOTAL	16,261	16,051	100	100
Bengal with Orissa	Bengal, Southern and Western.	Southern Bengal — Chittagong, Noakhali, Backergunge, Khulna, 24 Parganas Central Bengal — Murshidabad, Nadia, Jessore Western Bengal — Birbhum, Burdwan, Bankura, Hughli, Howrah, Midnapur Orissa — Balasore, Cuttack, Puri, Angul	25,640 1 488	26,797 1 539	Rice	12,947	13,663	75.2	78.5
					Other food grains	1,757	1,182	10.2	6.8
					Oilseeds	779	510	4.5	2.9
					Jute	246	451	1.4	2.6
					Others	1,497	1,600	8.7	9.2
					TOTAL	17,226	17,406	100	100
Behar and Orissa	Chota Nagpur	Singhbhum, Manbhum, Ranchi, Hazaribagh, Palamau	4,900 717	5,605 558	Rice	4,337	4,587	63.5	70.2
					Other food grains	1,143	1,386	16.7	21.2
					Oilseeds	789	344	11.6	5.3
					Others	563	218	8.2	3.3
					TOTAL	6,832	6,535	100	100
Behar with Darjeeling	Behar	North Behar — Champaran, Saran, Muzaffarpur, Darbhanga, Monghyr (part), Bhagalpur (part), Purnea, Darjeeling South Behar — Shahabad, Patna, Gaya, Monghyr (part), Bhagalpur (part), Sonthal Parganas	23,606 1 048	24,019 1 164	Rice	10,749	8,911	47.7	43.2
					Wheat	1,111	1,198	4.9	5.8
					Barley	837	1,196	3.7	5.8
					Maize	1,677	1,440	7.5	7.0
					Other food grains	4,680	4,633	20.8	22.4
					Oilseeds	974	1,155	4.3	5.6
					Others	2,493	2,107	11.1	10.2
					TOTAL	22,527	20,640	100	100
United Provinces of Agra and Oudh.	Agra Provinces, East	Eastern districts — Mirzapur, Benares, Jaunpur, Ghazipur, Balha, Azamgarh Submontane districts — Gorakhpur, Basti	11,402 1 238	11,334 1 219	Rice	2,723	2,514	29.6	27.0
					Wheat	795	778	8.6	8.4
					Barley	1,295	1,469	14.0	15.8
					Maize	310	433	3.4	4.7
					Gram	716	631	7.8	6.8
					Other food grains	2,328	2,572	25.3	27.2
					Oilseeds	360	273	3.9	2.9
					Sugarcane	363	333	3.9	3.6
					Others	319	333	3.5	3.6
					TOTAL	9,209	9,295	100	100

Administration or Province	Economic Circles	Districts comprised in each Circle	POPULATION (IN THOUSANDS) AND PER ACRE OF CULTIVATED LAND		TOTAL ACREAGE SHOWING PRINCIPAL CROPS (IN THOUSANDS OF ACRES)			Percent age of each crop to total in column 7	Percent- age of each crop to total in column 8
			1901	1911	Principal crops	Annual average acreage 1890 91 to 1894 95	Annual average acreage 1907 08 to 1911 12		
1	2	3	4	5	6	7	8	9	10
United Pro- vinces of Agra and Oudh	Bundelkhand	Jhansi, Jalaun, Hamir pur, Banda	2,106 690	2,208 740	Wheat Jowar Gram Other food grains Oilseeds Others	448 454 837 714 286 312	243 654 819 766 340 160	14.7 14.9 27.4 23.4 9.4 10.2	8.2 21.9 27.4 25.7 11.4 5.4
					TOTAL	3,051	2,982	100	100
United Pro- vinces of Agra and Oudh	Agra Pro- vinces, North and West in- cluding Oudh.	<i>The Doab</i> —Saharan pur, Muzaffarnagar, Meerut, Bulandshahr, Aligarh, Muttra, Agra, Etah, Mainpuri, Farrukhabad, Etah, Cawnpore, Fatehpur, Allahabad	34,184 1,137	33,640 1,118	Rice Wheat Barley Jowar Bajra Maize Gram Other food grains Sugar cane Cotton Others	4,875 5,343 3,138 1,607 1,348 1,153 4,708 3,778 889 1,014 2,190	3,447 5,284 3,424 1,640 2,370 1,788 3,356 4,486 868 1,138 2,343	16.2 17.8 10.4 5.3 4.5 3.8 15.7 12.6 3.0 3.4 7.3	11.4 17.6 11.4 5.4 7.9 5.9 11.2 14.7 2.9 3.8 7.8
		<i>Hill districts</i> —Dehra Dun, Garhwal, Al- mora, Nainital <i>Central districts</i> —Bij- nour, Moradabad, Budaon, Bareilly, Pilibhit, Shahjahan- pur <i>Oudh</i> —Kheri, Bah- raich, Gonda, Fy- zabad, Barahanki, Sitapur, Hardoi, Unao, Lucknow, Rae Bareilly, Sultanpur, Partabgarh.			TOTAL	30,052	30,094	100	100
Punjab with Delhi	Punjab, East	<i>Jetch Doab</i> —Shahpur, Gujrat <i>Rechna Doab</i> —Lyall pur, Jhang, Gujran- wala, Sialkot <i>Bari Doab</i> —Multan, Montgomery, Lahore, Amritsar, Gurdaspur <i>Eastern districts</i> —Ho- shiarpur, Jullundur, Ludhiana, Ferozepore, Hissar, Rohtak, Gur- gaon, Delhi, Karnal, Ambala <i>Hill districts</i> —Kangra, Simla	17,543 940	16,957 884	Wheat Barley Jowar Bajra Maize Gram Other food grains Oilseeds Cotton Others	5,299 996 2,007 1,174 884 2,658 2,772 738 614 1,525	6,139 819 736 1,131 885 2,945 1,520 875 911 3,211	28.4 5.3 10.8 6.3 4.7 14.2 14.8 4.0 3.3 8.2	32.0 4.3 3.8 5.9 4.6 15.4 7.9 4.6 4.8 16.7
					TOTAL	18,667	19,172	100	100
Punjab and North West Frontier Province	Punjab, West	<i>East of Indus</i> —Muza- fargarh, Mianwah, Attock, Jhelum, Rawalpindi, Hazara <i>Trans Indus</i> —Pesh- war, Kohat, Bannu, Dera Ismail Khan, Dera Ghazi Khan	4,874 856	5,215 930	Wheat Barley Jowar Bajra Maize Gram Other food grains Oilseeds Cotton Others	2,277 435 351 693 417 279 516 345 145 235	2,400 337 262 530 437 357 480 263 131 412	40.0 7.6 6.2 12.2 7.3 4.9 9.1 6.1 2.5 4.1	42.8 6.0 4.7 9.4 7.8 6.4 8.6 4.7 2.3 7.3
					TOTAL	5,593	5,609	100	100
Punjab	Sind	Upper Sind Frontier, Sukkur, Larkana, Karachi, Hyderabad, Thar and Parkar	3,102 940	3,362 817	Rice Wheat Jowar Bajra Other food grains Oilseeds Cotton Others	681 498 492 769 249 412 100 100	1,040 457 576 916 422 327 267 110	20.7 15.1 14.9 23.3 7.5 12.5 3.0 3.0	25.3 11.1 14.0 22.3 10.3 7.9 6.5 2.6
					TOTAL	3,301	4,115	100	100

Administration or Province	Economic Circles	Districts comprised in each Circle	POPULATION (IN THOUSANDS) AND PER ACRE OF CULTIVATED LAND		TOTAL ACREAGE SHOWING PRINCIPAL CROPS (IN THOUSANDS OF ACRES)			Percentage of each crop to total in column 7	Percentage of each crop to total in column 8
			1901	1911	Principal crops	Annual average acreage 1890 91 to 1894 95	Annual average acreage 1907 08 to 1911 12		
1	2	3	4	5	6	7	8	9	10
Bombay	Gujarat	Panchmahals, Kaira, Ahmedabad, Broach, Surat	2,702 724	2,803 871	Rice	394	260	10 7	8 1
					Wheat	358	218	9 7	6 8
					Jowar	613	548	16 6	17 0
					Bayra	481	423	13 1	13 1
Do	Konkan	Thana, Kolaba, Ratnagiri, Kanara	3,039 2 393	3,111 1 932	Other food grains	916	764	24 9	23 7
					Oilseeds	149	144	4 0	4 5
					Cotton	666	773	18 1	24 0
					Others	106	88	2 9	2 8
Do	Deccan	Khandesh—West Khandesh, East Khandesh Deccan Plateau—Nasik, Ahmednagar, Poona, Satara, Sholapur Karnatak—Bijapur, Dharwar, Belgaum	8,787 428	9,220 458	TOTAL	3,683	3,218	100	100
					Rice	782	974	61 6	60 5
					Other food grains	388	516	30 5	32 0
					Others	100	120	7 9	7 5
Central Provinces	Berar	Buldana, Akola, Amraoti, Yeotmal	2,754 409	3,057 421	TOTAL	1,270	1,610	100	100
					Wheat	1,561	1,055	7 6	5 2
					Jowar	7,060	6,019	34 4	29 9
					Bayra	4,168	4,525	20 3	22 5
Central Provinces with Sambalpur	Central Provinces	Nerbudda Valley—Hoshangabad, Narsinghpur, Saugor, Damoh, Jabalpur, Mandla Wangunga and Mahanadi basins—Seoni, Chanda, Balaghat, Bhandara, Drug, Raipur, Bilaspur, Sambalpur South Western districts—Nimar, Betul, Chhindwara, Nagpur, Wardha	9,877 584	11,603 586	Other food grains	3,621	3,668	17 7	18 3
					Oilseeds	1,497	1,264	7 3	6 3
					Cotton	2,143	3,103	10 4	15 4
					Others	466	477	2 3	2 4
Madras	Madras, North East	Ganjam, Vizagapatam, Godavari, Kistna, Guntur, Nellore	10,897 2 017	12,087 1 046	TOTAL	20,516	20,111	100	100
					Wheat	901	318	13 4	4 3
					Jowar	2,237	2,560	33 2	35 3
					Other food grains	684	898	10 1	12 4
Do	Do	Do	Do	Do	Oilseeds	596	236	8 8	3 3
					Cotton	2,229	3,132	33 1	43 2
					Others	94	109	1 4	1 5
					TOTAL	6,741	7,253	100	100
Do	Do	Do	Do	Do	Rice	4,346	5,320	25 7	26 9
					Wheat	3,016	2,832	23 1	14 3
					Jowar	1,288	1,974	7 6	10 0
					Gram	791	980	4 7	4 9
Do	Do	Do	Do	Do	Other food grains	3,291	4,525	10 4	22 8
					Oilseeds	1,975	2,303	11 7	11 6
					Cotton	715	1,252	4 2	6 3
					Others	604	626	3 6	3 2
Do	Do	Do	Do	Do	TOTAL	16,926	19,812	100	100
					Rice	1,731	4,586	32 0	39 7
					Jowar	928	1,363	17 2	11 8
					Bayra	325	723	6 0	6 3
Do	Do	Do	Do	Do	Ragi	227	791	4 2	6 8
					Other food grains	1,047	1,935	19 4	16 7
					Oilseeds	389	641	7 2	5 5
					Cotton	206	323	3 8	2 8
Do	Do	Do	Do	Do	Others	549	1,107	10 2	10 4
					TOTAL	5,402	11,559	100	100

Administration or Province	Economic Circles	District comprised in each Circle	POPULATION (IN THOUSANDS) AND PER CULTIVATED LAND		TOTAL ACREAGE SHOWING PRINCIPAL CROPS (IN THOUSANDS OF ACRES)			Percentage of each crop to total in column 7	Percentage of each crop to total in column 8
			1901	1911	Principal crops	Annual average acreage 1890 91 to 1894 95	Annual average acreage 1907 08 to 1911 12		
1	2	3	4	5	6	7	8	9	10
Madras	Madras, North	Bellary, Kurnool, Anantapur, Cuddapah	3,899 555	5,000 649	Rice	338	328	4 8	4 3
					Jowar	2,102	2,149	29 9	27 9
					Bayra	526	609	7 5	7 9
					Ragi	298	294	4 2	3 9
					Other food grains	2,137	2,605	30 4	33 8
					Oilseeds	508	491	7 2	6 4
					Cotton	734	929	10 4	12 1
					Others	390	301	5 6	3 7
					TOTAL	7,031	7,706	100	100
Do	Madras, South	Central districts—Chittoor, Chingleput, North Arcot, South Arcot Cauvery Valley—Salem, Coimbatore, Trichinopoly, Tanjore Southern districts—Madurai, Pannad, Tirunelveli	18,856 1 553	19,464 1 214	Rice	3,122	4,159	25 7	25 9
					Jowar	1,498	1,725	12 3	10 8
					Bayra	1,906	2,311	15 7	14 4
					Ragi	1,103	1,427	9 0	8 9
					Other food grains	2,417	3,028	19 9	18 9
					Oilseeds	813	1,453	6 7	9 1
					Cotton	584	989	4 8	6 2
					Others	700	946	5 9	5 8
					TOTAL	12,143	16,038	100	100
Madras with Coorg	Madras, West	Nilgiris, Malabar, Coorg, South Canara	4,037 2 167	4,334 1 765	Rice	1,205	1,480	64 7	60 3
					Other food grains	103	138	5 5	5 6
					Coffee	114	76	6 1	3 1
					Others	441	762	23 7	31 0
					TOTAL	1,863	2,456	100	100

Sir Robert Giffen's criticisms on Indian price statistics

14 By dividing India into a number of independent economic circles, a serious attempt has been made to meet the criticisms of the late Sir Robert Giffen, who in answer to Sir David Barbour's queries before the Gold and Silver Commission said as follows —

“Nobody would like, more than I would, to see a very good study of Indian prices. Each place I should like to see taken by itself, and all the articles belonging to that place, and a good index number framed for about 50 places, and if you could include wages as well, so much the better. Then I think you might have something which would enable you to arrive at very interesting conclusions. (You are asking more for India than you have given us for England, have you not?) I am, certainly, but there is one reason why you would not require to have so many places in England, that it is a much smaller place than India, and the facilities for communication are very great. If I might make a remark, it is not in any offensive way that I am going to speak, it, there are a great many prices for India, but they are published without any note or comment of any kind, and without explanations of apparent discrepancies from year to year, or between place and place. That seemed to me very important and at any rate the prices should be much more useful to outsiders like myself if they were carefully annotated and investigated.” (Minutes of Evidence—Gold and Silver Commission, Volume I, 1888)

## PERIOD EMBRACED IN THE ENQUIRY

15 The terms of reference required the enquiry to be limited to the fifteen years, 1895—1909. But for reasons explained in Appendix C, dealing with the construction of index numbers, and as this period commenced with a series of, more or less, severe famines and ended with a period of highly inflated prices I have considered it advisable to extend the period of the enquiry backwards to 1890, especially because the five years, 1890—1894, have been taken as the base for purposes of comparing the statistics of all later years, and also because it is desirable to go back a few years prior to the period of violent fluctuations in prices, in order that a sufficiently detached point of view might be obtained. The enquiry has also been brought up to the end of 1912. Records from 1890 were found, on the whole, to be fairly accessible, though, in very many cases, much wheat had to be winnowed from a deal of chaff and stubble but it has not been found possible to go back to earlier years.

The period covered by the enquiry extends from 1890 to 1912

## TOURS

16 Messrs Shirras and Gupta and myself made extensive tours in all parts of India with a view to collect and correlate reliable statistics of prices and wages, and to examine the question of the rise of prices locally. The places visited in each circle were typical and are shown in map No 1 published with the report. We visited 92 places in all. I myself visited most of the central and important places, and was sometimes accompanied by one or both of my assistants. The latter also visited some places by themselves. The main object of these visits was, as mentioned above, to collect statistics on the spot, and also to examine the present method of collecting statistics of prices and wages, furnished to the Director-General of Commercial Intelligence, and the general economic condition of the district. Before proceeding on tour, I communicated to District Officers and non-official bodies, details of the statistics required, questions intended to be discussed and facts proposed to be examined. We interviewed both officials and non-officials, and discussed with them various questions connected with the subject of the enquiry. We examined the leading citizens of the district, bankers, merchants, landlords, tenants, and labourers. The tours were thus invaluable as a means of understanding and studying local conditions. I should add that wherever we went we received every possible help from both officials and non-officials and my cordial thanks are due to them.

The object of touring in the economic circles

## CHAPTER III.

### Collection of Materials.

The scope of the statistics collected

17 I was much impressed at the outset of the enquiry by the absence of statistics of prices and wages which would enable one to judge, even with approximate accuracy, the extent and effects of the change in price levels in the country. It was, therefore, necessary to collect various classes of statistics, including those of prices and wages, from independent sources, and the collection, sifting and correlation of these have involved an immense amount of labour and trouble. Special effort was also made to collect statistics up to the latest date possible. The statistics now published will, I hope, be found to be a collection of statistics of Indian prices and wages, more comprehensive and reliable than any, previously collected. These include prices from 1890 to 1912 of as many articles as were available in each part of India, wages, for the same period, of skilled and unskilled labour in large cities and industrial centres and other urban and rural areas, acreage under cultivation and outturn of each crop for each year up to 1911, statistics of rainfall divided into months and seasons, statistics of population, statistics of external and internal trade, statistics of coinage, currency in circulation, absorption of gold and silver, balance of trade statistics of the world's production of gold, statistics of prices in other countries of some of the most important commodities exported from and imported into India, statistics of railway transportation charges in India, and of freights to and from foreign countries, statistics of the world's production of wheat, rice, cotton, sugar, etc., statistics of the growth of railway and other communications in India, and banking and other miscellaneous statistics.

### STATISTICS OF PRICES

The selection of commodities

18 The general plan followed in the enquiry was to select a comprehensive list of representative staple commodities and trace the course of prices of each, from year to year, from 1890 to the latest possible date, in most cases the statistics having been brought up to the end of the calendar year 1912.

19 The first step in the enquiry was, therefore, to determine the commodities for which price statistics should be quoted, the object being to obtain a result, representative, as nearly as possible, of the cost of living and the industrial life of the community as a whole. As many as possible of the main staple articles of Indian production and consumption have been selected, consistent with the possibility of obtaining continuous price quotations and with the avoidance of duplication and also the preservation of proportion as between several divisions and classes into which commodities have been divided. Manufactured articles as well as raw materials have been included though specialised lines have been avoided. Choice was, however, in some cases limited by the difficulty of securing continuous quotations of certain articles. On the whole, the list is a fairly comprehensive one and the items have been classified in thirteen general groups. The following list shows the articles which have been included and the classes into which they have been grouped.

## List of Articles

	Botanical Names of Source		Botanical Names of Source
<b>I FOOD-GRAINS—CEREALS</b>		<b>V OTHER ARTICLES OF FOOD—contd</b>	
1 Rice	<i>Oryza sativa Linn</i>	(i) <i>Condiments and spices—contd</i>	
2 Wheat	<i>Triticum sativum Linn</i>	7 Catechu	<i>Acacia Catechu Willd</i>
3 Wheat-flour	" "	8 Coriander seed	<i>Coriandrum sativum Linn</i>
4 Barley	<i>Hordeum vulgare Linn</i>	9 Cumin seed	<i>Cuminum Cyminum Linn</i>
5 Jowar or cholam	<i>Andropogon Sorghum Brot</i>	10 Ginger	<i>zeylanicum Breyn</i>
6 Bajra	<i>Pennisetum typhoideum Rich</i>	11 Mothi (Fenugreek)	<i>Zingiber officinale Roscoe</i>
7 Maize	<i>Zea Mays Linn</i>	12 Saffron	<i>Crocus sativus Linn</i>
8 Ragi or Marua	<i>Eleusine coracana Gaertn</i>	13 Tamarind	<i>Tamarindus indica Linn</i>
9 Oats	<i>Avena sativa Linn</i>	14 Turmeric	<i>Curcuma longa Linn</i>
10 Kodon	<i>Paspalum serotriculatum Linn</i>		
11 Kangni or Kakun	<i>Setaria itahea Beauv</i>	(ii) <i>Animals and animal produce</i>	
12 Satlu	<i>Oryza Sps</i>	1 Fowls	
13 China or Vari	<i>Panicum mihaceum Linn</i>	2 Chicken	
14 Veragu	" " "	3 Beef	
		4 Mutton	
<b>II FOOD-GRAINS—PULSES, PEAS OR SPLIT PEAS</b>		5 Meat, goat	
1 Gram	<i>Cicer arietinum Linn</i>	6 Eggs, Fowls	
2 Arahar or Red gram	<i>Cajanus indicus Spreng</i>	7 " Ducks	
3 Musur	<i>Ervum Lens Linn</i>	8 Milk	
4 Mung or Green gram	<i>Phaseolus radiatus Linn</i>	9 Ghee	
5 Matar	<i>Pisum arvense Linn Pisum sativum Linn</i>	10 Butter	
6 Khesari	<i>Lathyrus sativus Linn</i>	11 Curd	
7 Urd or Kalai or Black gram	<i>Phaseolus Mungo Linn</i>	12 Kheer	
8 Kulthi or Horse gram	<i>Dolichos biflorus Linn</i>		
9 Moth	<i>Phaseolus aconitifolius Jacq</i>	(iii) <i>Others</i>	
10 Barbat or Indian bean	<i>Dolichos Lablab Linn</i>	1 Salt	
		2 Fish	
<b>III SUGARS</b>		3 Onion	<i>Allium Cepa Linn</i>
1 Sugar, refined		4 Garlic	<i>Allium sativum Linn</i>
2 " unrefined (Gur or Jagery)		5 Potatoes	<i>Solanum tuberosum Linn</i>
		6 Brinjals	<i>Solanum Melongena Linn</i>
<b>IV TEA AND COFFEE</b>		7 Pulbul	
1 Tea	<i>Camellia Thea Linn</i>	8 Sago	<i>Metroxylon Sagus Rotib</i>
2 Coffee	<i>Coffea arabica Linn</i>	9 Arrowroot	<i>Curcuma angustifolia Roxb</i>
		10 Mahua	<i>Bassia Sps</i>
<b>V OTHER ARTICLES OF FOOD</b>		Cattle food—	
(i) <i>Condiments and spices</i>		1 Grass	
1 Anisced	<i>Pimpinella anisum Linn</i>	2 Straw	
2 Black pepper	<i>Piper nigrum Linn</i>	3 Bran	
3 Betelnut	<i>Areca Catechu Linn</i>	4 Blusi	
4 Chillies	<i>Capsicum Sps</i>		
5 Cloves	<i>Eugenia caryophyllata Thunb</i>	<b>VI OILSEEDS, OILS AND OILOAKE</b>	
6 Cardamom	<i>Elettaria Cardamomum Maton</i>	Seeds—	
		1 Rape and mustard	<i>Brassica Sps</i>
		2 Linseed	<i>Linum usitatissimum Linn</i>



## List of Articles—contd

	Botanical Names of Source		Botanical Names of Source
VI OILSEEDS, OILS AND OIL- CAKE— <i>contd</i>		X HIDES AND SKINS	
Seeds— <i>contd</i>		Cow hides	
3 Sesamum	<i>Sesamum indicum DC</i>	Buffalo hides	
4 Poppy seed	<i>Papaver somniferum Linn</i>	Goat skins	
5 Castor seed	<i>Ricinus communis Linn</i>	Sheep „	
6 Earthnut	<i>Arachis hypogæa</i>		
7 Niger	<i>Guizotia abyssinica Cass</i>	XI METALS	
8 Cotton seed	<i>Gossypium Sps</i>	1 Copper braziers	
9 Cashew-nut	<i>Anacardium occidentale Linn</i>	2 Spelter, hard	
10 Sorghu	<i>Guizotia abyssinica Cass</i>	3 Pig, iron	
11 Safflower seed	<i>Carthamus tinctorius Linn</i>	4 Iron, hoop	
Oils—		5 „ bar	
1 Mustard oil	<i>Brassica Sps</i>	6 „ sheets	
2 Cocoanut oil	<i>Cocos nucifera Linn</i>	7 „ rolled rod	
3 Linseed oil	<i>Linum utitatisimum Linn</i>	8 Galvanised	
4 Castor oil	<i>Ricinus communis Linn</i>	corrugated sheets	
5 Oil sesamum	<i>Sesamum indicum DC</i>	9 Tin block	
6 Safflower oil	<i>Carthamus tinctorius Linn</i>	10 „ plates	
7 Oil Groundnut	<i>Bassia Sps</i>	11 -Yellow metal	
8 Oil mahua		XII OTHER RAW AND MANUFACTURED ARTICLES	
Oilcake—		Coal	
1 Rapo cake	<i>Brassica Sps</i>	Charcoal	
2 Castor oil cake	<i>Ricinus communis Linn</i>	Coke	
3 Groundnut cake	<i>Arachis hypogæa Linn</i>	Kerosene oil	
VII TEXTILES—JUTE		Shellac	
Jute, raw	<i>Corchorus capsularis Linn</i>	Saltpetre	
	<i>Corchorus olitarius Linn</i>	Indigo	<i>Indigofera Sps</i>
Jute manufactures—		Tobacco leaf	<i>Nicotikna Tabacum Linn</i>
1 Twill bags		Myrobalan	<i>Phyllanthus Emblica Linn</i>
2 Hessians		Fire wood	
VIII TEXTILES—COTTON		Cocoanut	<i>Cocos nucifera Linn</i>
Cotton raw—		Cocoanut kernel	„ „ „
„ ginned	<i>Gossypium Sps</i>		
„ unginned		XII BUILDING MATERIALS	
Cotton manufactures—		Bricks	
Yarns		Tiles	
Piece goods		Lime	
IX OTHER TEXTILES		Surki	
Silk, raw		Sand	
Wool „		Kankar	
Hemp „	<i>Crotalaria juncea Linn</i>	Khoa metal	
		Cement	
		Thatching grass	
		Bamboos	
		Teak wood	<i>Tectona grandis Linn</i>
		Sal timber	<i>Shorea robusta Gaertn</i>
		Jamoon wood	<i>Engenia Jambolana Lamk</i>

20 Variations in prices affect all classes and individuals in the community, whether producer, dealer or consumer. Wholesale price ratios, especially those of raw materials, being more sensitive than retail prices, reflect industrial and trade conditions, while, from the standpoint of the cost of living, retail prices form the most effective basis for estimating the changes in the purchasing power of money, being, as they are, subject to variations in local and special conditions, and representing, as they do, in any event, the actual cost of the commodities to the consumer. Wholesale price quotations have, therefore, been kept throughout distinct from retail prices and separate statements are published of the two kinds of prices.

Wholesale prices,  
kept separate from  
retail prices

21 The retail trade in food-grains in India is still so organised that abnormalities in prices, though much less than formerly, must be expected to occur. It should, however, be remembered that in some cases the connection between retail and wholesale prices is very close, while in others very small indeed. In the case of markets with considerable stocks, the connection between retail and wholesale prices is exceedingly close, wholesale quotations differ slightly from retail prices and the differences are merely the cost and profit of retailing. In some markets the organisation is such that the influence of one individual predominates. This forms a striking contrast to a market in which there are independent dealers. In Muttra, according to Mr Moreland, Director of Agriculture, United Provinces of Agra and Oudh, one of the big shopkeepers fixes the prices at which he is prepared to sell, and the brokers carry his rates round to the other shops. "It is not necessary that the other dealers should sell at the same rates, but generally they do so with slight variations." In markets which are more or less restricted, "the weighmen come from larger periodical markets in the district, and inform the dealers in the headquarters market of the prices that have been paid, and the dealers then fix the headquarters rates after consulting the Chaudhri. This is very like a ring, outsiders do not bring grain to this market, the supplies being in the hands of these dealers, who get the grain from their agents in the villages."

The connection  
between wholesale  
and retail prices

22 It is also necessary to remember that a close comparison between two small markets is apt to lead to false conclusions. In some markets, sellers can control the supply if they can form, as it were, a ring. In others, cultivators bring grain for sale without previous arrangement and shopkeepers have to watch arrivals before fixing their rates. The daily variation in prices in some small markets is considerable, especially when they deal in exporting commodities and are in touch with the main wholesale trade. The rate at which a change of price takes place depends on the intimacy of the connection with the large wholesale trade markets. The change of price which is produced by this contact is sometimes impeded by local causes. In this connection Mr Moreland says "Bulandshahr depends on information from Khurja, Hapur, and Hathras, all of which are in connection with the main wholesale trade of the country. Muttra gets news daily from Hathras, but relies on telegrams from Calcutta and Bombay. In Budaun, Messrs Ralli Brothers announce their buying rates beforehand, and these set the standard for the season. Fatehpur takes its rates from Bindki market, but Bindki in its turn is governed by Cawnpore, which is within carting radius. Jaunpur gets telegrams from Patna and Calcutta, Basti from various neighbouring districts, and Gonda from Calcutta and Cawnpore. Unao is entirely governed by Cawnpore, twelve miles distant while Hamirpur with no railway yet, is also dependent on Cawnpore but in a rather curious way. The local supplies of wheat in Hamirpur are normally insufficient, the crop is not held up to a great extent after harvest, and as soon as local supplies are worked off, the rate settles to that of Cawnpore *plus* cost of carting. Gram, on the other hand, is usually available in excess, and hence its price is lower than

that at Cawnpore by the cost of carriage, but if local stocks run short it becomes dearer than Cawnpore by the same amount

Wholesale and retail prices published separately.

23 Statistics of Wholesale and Retail prices of the commodities mentioned in the list on pages 11 and 12 in all the twenty-four circles, with one exception, *viz*, the Konkan, where reliable wholesale prices were not available from 1890, have been compiled and are published separately. The sources from which quotations have been obtained and the method in which the statistics have been compiled, are described in detail in Appendix B. It has not been possible to include in each of the circles all the articles in the list, as many of them do not form staples of trade and consumption in some circles, and it has not been always possible to secure continuous quotations for many of them for the entire period under investigation.

### INDEX NUMBERS

Object of index numbers

24 If all prices went up or down together in the same proportion it would be easy to measure the changes in the value of money. Some prices, however, go up, while others go down, and, in times of great and rapid development, even though they may move in the same direction, they do not all change to the same extent. To obtain a measure of the general trend of prices, resort is had to the method of index numbers. A period is selected as the standard, and with the prices of this period comparisons are made of prices in other years, the prices being expressed in the different years as percentages of the price of the commodity in the standard or basic period. In Appendix C of this Report, the chief points in the construction of an index number are discussed in detail, *viz*, (1) the selection of a basic period, (2) the selection of commodities of which prices are to be taken, (3) the method of collecting price quotations of the commodities selected and the calculation of the ratios of these prices to those of the basic period, and (4) the averaging of these price ratios.

Period adopted as the base

25 The basic period selected for the enquiry is the quinquennium, 1890—94. This is a typical or normal period unaffected by such circumstances as famine and unseasonal rainfall. It was impossible to find, during the period under investigation, any consecutive ten years, some portion of which was not seriously affected by exceptional circumstances. It was, therefore, not practicable to select, as the Committee of the British Association recommended, a ten year basic period.

The commodities selected

26 The commodities selected for the index numbers include raw and manufactured articles and, although it was impossible to include all articles bought and sold in the country, reliable quotations have been collected for a large number of representative commodities and grades of commodities. It will be noted that in the majority of the circles the commodities, of which price quotations have been obtained, are the products of the soil, as is to be expected in a country in which those connected with agriculture are 73 per cent of the total population.

Sources of price quotations

27 The sources of these quotations are, as described in Appendix B, the published records of Government, the price currents of the Chambers of Commerce, the account books of merchants, trade reports, and the price registers of the local authorities in most of the districts into which India is divided.

Weighting

28 Considerable attention has been given to the question of "weighting". Statisticians have disagreed as to whether all commodities should be given the same importance in an index number. It has sometimes been pointed out that the system of averaging which gives an equal importance to all commodities, would not present a correct view of the general price level, the purchasing power of

money being much more affected by a rise or fall in the price of an important article than by a similar fall or rise in the price of an article of little or no importance. In Appendix C, pages 207 to 212, the various methods of weighting have been criticised. It has, with the sanction of the Government of India, been decided to adopt unweighted index numbers generally. In addition to the unweighted index numbers, weighted index numbers for India, Calcutta and Bombay have been constructed to anticipate theoretical criticism, the weights assigned to each class of commodities in these circles being described in Appendix C.

### FOREIGN PRICE LEVELS

29 The collection of price statistics would have been incomplete, without a collection of statistics of the prices prevailing in other countries, of articles similar to those which are exported from and imported into India. Statistics are published showing the prices of wheat, rice, jute, cotton, barley, maize, sugar, tea, coffee, blackpepper, rapeseed oil, cotton yarn, cotton piecegoods, silk, wool, hides and skins, iron, copper, tin, zinc, and coal. It has also been necessary to compare the general rise of prices in various countries, by means of index numbers published by the statistical offices of the United Kingdom, Belgium, France, Germany, Italy, Canada, United States, Australia and New Zealand. They have all been reduced to a base of 1890—94, the average index numbers for which have been taken as 100. Reference has been made to some of these index numbers in Appendix C, which deals with the construction of index numbers.

30 The sources of the foreign price statistics and of the index numbers are as follows—for the United Kingdom, the publications of the Board of Trade dealing with prices, the Economist, the index numbers of Sauerbeck and the price statistics on which they were based, for the United States, the publications of the Department of Commerce and Labor, for Canada, the special report on wholesale prices in Canada (R. H. Coates) published by the Department of Labor, for Germany, statistics of prices and index numbers furnished by the Imperial Statistical Office, Berlin, through the British Ambassador, or Italy, statistics sent by the British Ambassador at Rome and "Statistica dei Prezzi del frumento del pane, del vino, della carne, del burro, e del riso, in Milano" (Milan 1909), "Il costo della vita" by Signor M. Alberti, for Russia, statistics furnished by the British Ambassador in St. Petersburg. The Australian price statistics have been obtained from the Federal Government's Statistician and the New Zealand figures from the Minister of Industries, Commerce and Agriculture. These latter include Government statistics and also those contained in the memorandum on the course of Prices in New Zealand by McIlwraith. The statistics for China have been forwarded by the British Ambassador in Peking, while those for Japan have been collected through the British Embassy, Tokio, and the Imperial Japanese Consul-General, Calcutta. The statistics of prices in Argentina have been obtained through the Consul-General of the Argentine Republic, Calcutta.

### AGRICULTURAL STATISTICS

31 The prime factor which determines the price level of agricultural products in a country like India is the total produce of the commodities in the year concerned. In determining the causes of the rise of Indian price levels, it has, therefore, been necessary to compile statistics of the area under crops and their outturn. The statistics of area under crops in each year are published annually.

by the Director General of Commercial Intelligence, in Volume I of the Agricultural Statistics but they are of very varying value in the different provinces. The procedure followed in the different provinces in compiling these statistics is described in detail in Appendix D of this report.

Statistics unreliable  
in some cases

32 In areas having a subordinate revenue staff, statistics relating to cultivation are collected by this agency and are, in most cases, fairly correct. But where there is no special agency for the collection of these statistics, they can hardly be relied upon. In Bengal, Bihar and in the permanently settled parts of Assam, except, perhaps, in cadastrally surveyed areas, the figures are practically guesses of the village Chowkidar (policeman). It is true they are reviewed and in some cases revised by district officers, but they also are guided by their general ideas, which may be far from correct.

Special features of  
statistics of area  
under cultivation

33 Statistics of acreage under cultivation have been compiled for each circle from the figures published in the "Agricultural Statistics" for the districts which constitute the circle concerned. The footnotes appended to these statistics will show that the figures are in some cases *prima facie* inaccurate. In most of these cases local authorities have found it impossible to revise the inaccurate figures and I have consequently been compelled to incorporate them as they are. Some alterations in the figures were, however, necessary for reasons given below —

As explained in Appendix D, the figures published in the "Agricultural Statistics" for the Punjab and the North-West Frontier Province for 1906-07 have been calculated on an entirely different basis from those published for the earlier years. The provincial authorities found it impossible to revise the figures for the earlier years on the lines of those for the later years. They have, however, kindly furnished figures for the later years revised according to the method followed in the earlier years, and these have been adopted in the tables published with this report. In some provinces, again, figures under certain crops were not available for the earlier years and, in some cases, those under two or more crops were lumped together. These have been split up according to their proportion in later years and the gaps in the earlier years have been filled up in consultation with the local authorities. Some incongruous figures for some districts have also been revised in the light of earlier and later figures.

Statistics of outturn  
of important crops

34 Statistics of the outturn of the more important crops are also published for each circle. The method followed in calculating these will also be found in Appendix D.

#### STATISTICS OF CATTLE

Statistics of the  
number of plough  
and milch cattle

35 Few questions are of such vital importance to the cultivator as the supply of cattle for agricultural purposes. Statistics showing the number of cattle in each circle have been compiled to test the theory which has repeatedly been put forward by witnesses that the supply of cattle, both of milch cows and plough bullocks, was steadily decreasing in consequence of the closing of grazing grounds and of pathways for cattle in villages, restrictions imposed on the grazing of cattle in forests, the spread of epidemic diseases and the slaughter of cattle for food or for the hide trade. The sources from which the statistics have been obtained and the method which has been followed in their compilation are explained in Appendix D. For reasons therein explained no great reliance can, I am afraid, be placed on these statistics.

#### STATISTICS OF RAINFALL

Importance of rain  
fall statistics

36 Most writers on the rise of Indian price levels have held that a primary, if not the primary, cause of the rise is a decrease in the supply of agricultural produce due to a deficiency of rainfall. "The rainfall of the year," says Mr Atkinson in his paper on *Rupee Prices in India, 1870 to 1908*, "has been shown to have had the greatest influence of all conditions on prices in India.

The fact that the crops in India are mainly dependent on the extent of the rainfall is sufficient evidence to show that when the rainfall is deficient, the crops also must be deficient, this results in the supply of necessaries not equalling the demand, and prices rise." Most of the persons consulted by us, in the different parts of India, also laid much emphasis on this question of rainfall as a prime factor in the rise of prices and said that during the last two decades rainfall has been specially deficient and unseasonable in India. To test the validity of these statements statistics of rainfall have been compiled for all the circles for the years 1890-1912 and tables are published showing the monthly rainfall in each circle year by year.

37 The failure of the monsoon is undoubtedly the greatest danger of Indian agriculture. It is not so much the total rainfall during the monsoons, as its <sup>Grouping into seasons</sup> distribution during the several months in which it falls, that has an important bearing on the success or failure of the crops. The months have, therefore, been grouped in the several circles into periods of heavy, moderate, light or no rain fall, and the total rainfall in each of these periods in the different circles is also published.

38 The figures of seasonal rainfall have also been converted into percentages of the normal. The normals have been based on the average yearly rainfall of the longest periods (generally 30 to 50 years) for which statistics are available and have been supplied by the Meteorological Department. A comparison of the rainfall of any year with the average fall of a short period will not justify one to conclude that the rainfall in that year was deficient or excessive. It has, therefore, been necessary to compare the rainfalls of the several years with the average rainfall of a much longer period, *i.e.*, the normal rainfall, instead of the average rainfall of the quinquennium 1890-1894, which has been taken as the base for all other statistics. <sup>Seasonal rainfall converted into percentages of the normal</sup>

39 A separate table is also published showing the years in which the rainfall in the months of heaviest fall has been more or less deficient as compared with the normal. This is based on a table published by Dr Walker, Director General of Observatories in India, comparing the deficiencies of rainfall in different countries of the whole world. Dr Walker's table has also been reproduced. <sup>Deficiency tables.</sup>

40 A series of charts has also been prepared to show, at a glance, for each year and for each circle, the actual and the normal rainfall in the several seasons. The normal has been represented by a straight line, while the fluctuations of the actual have been shown by pillars above or below the line. When these charts are compared with those of prices, the importance of rainfall as a determinant of Indian price levels will be clearly seen. <sup>Charts</sup>

41 A brief description of the special characteristics of rainfall in the different parts of India and the methods in which the statistics have been compiled will be found in Appendix E. <sup>Methods of compilation</sup>

#### STATISTICS OF WAGES

42 The object of the statistics of wages is to indicate the changes in the standard rates of wages, that is to say, changes in the material prosperity of the working classes. Variations in the cost of living affect wages only slowly, and it is necessary to see whether wages have risen in response to the rise in the cost of living and how such rise in wages compares with the rise in the general price level. <sup>Object of Wage Statistics</sup>

43 The principal record of the statistics of wages is the "Prices and Wages," which shows the average wages per month of "unskilled" and "skilled" labour in certain selected (but not always typical) districts in each province since 1884. But the information given is not a reliable index of the fluctuations in the earnings of the different working classes in India. A syce or horse-keeper is <sup>Wage Statistics in the "Prices and Wages" unreliable.</sup>

taken as representative of a domestic servant, but the class represented is very unimportant. A common mason, carpenter and blacksmith are taken as types of skilled labourers and one rate of wages is published for all of them, though their remuneration is actually far from equal. The group, "unskilled labour", is represented by only an able-bodied agricultural labourer, which expression itself is but too vague. No discrimination has also been made between the rates of wages of the different working classes prevailing in rural and urban areas and industrial centres, and in many cases, cash wages for labourers employed in towns or their neighbourhood, which are in no way typical of the rate prevailing in agricultural areas, have been returned as rates of wages for agricultural labourers.

44 On the whole, it has been found impossible to utilise the statistics published in the "Prices and Wages" for agricultural labour and for common masons, carpenters or blacksmiths as representing skilled labourers, especially as the statistics are in many cases wholly unreliable.

Collection of Wage Statistics

45 The first step in the collection of wage statistics in this enquiry was the selection of the different classes of wage-earners and their classification. It was not possible to obtain statistics of wages on as large a scale as that on which those of prices have been obtained, but the ground covered is very considerable. The wages which have been collected are, it is believed, typical of most, if not all, other occupations for which it has not been possible to collect statistics.

Classification of Wage earners.

46 In Appendix G has been described, in brief, the special features in the collection, classification and compilation of wage statistics. The wage-earners have been divided into four classes—those employed in industries, in important cities with a large population, in smaller towns and in rural areas. The following statement shows the different classes of wage-earners for whom statistics have been collected and the groups into which they have been divided. As in the case of prices, index numbers have been calculated for all the wage statistics and are published separately, the average of the years 1890-94 being taken as the base.

#### *I—Industrial wages*

Wages in Industries, etc —

Jute	Leather
Cotton	Paper
Wool	Brewing
Sugar	Railways
Tea	Other Factories and Work-
Coal	shops

#### *II—Wages in Important Towns*

Artisans	General Labourers	Domestic Servants
Carpenter	Cooly	Coachman
Blacksmith	Beldar	Syce
Mason	Driver	Sweeper
Bricklayer		Bhisti
Stone-cutter		Durwan
Polishman		Punkha-puller
Brick-moulder.		
Painter		
Gulder		
Glazier		
Ashphaltman		
Grainer		
Laneman		
Markman		
Thatcher and Gharami		

*III—Wages in other urban areas*

Artisans	General Labourers	Domestic Servants
Carpenter Blacksmith Mason Bricklayer Brick-moulder Stone-cutter Painter	Cooly Beldar	Coachman Syce Sweeper Bhisti

*IV—Rural Wages*

Village Artisans	Agricultural Labourers
Village Carpenter Village Blacksmith Thatcher and Gharami	Ploughman Reaper Weeder Transplanter and Sower Driver Others

STATISTICS OF TRADE

47 The statistics of foreign or external seaborne trade, as published in the <sup>Statistics of trade</sup> compilations of the Commercial Intelligence Department, have been used for several <sup>how used</sup> purposes —

i For calculating from the declared values average annual wholesale price quotations at the several ports in cases where independent quotations were not available In the Indian Customs Act, it is provided that the value of the goods imported or exported should represent (1) their wholesale cash price, *less* trade discount for which goods of the like kind and quality are sold, or are capable of being sold, at the time and place of importation or exportation, as the case may be, without any abatement or deduction whatever, except (in the case of goods imported) of the amount of the duties payable on the importation thereof, or (2) where such price is not ascertainable, the cost at which goods of the like kind and quantity could be delivered at such place, without any abatement or deduction except as aforesaid It is thus possible to use the Seaborne Trade statistics as a source of price quotations

ii To show the growth of India's foreign trade and the movements of the trade in the more important commodities, namely, cotton and cotton manufactures, tea, sugar, foodgrains and jute

iii To determine the surplus production available for export

iv To show the movements of the imports of the necessities of life and of articles of luxury as indicating changes in the standard of living

v For calculating the balance of India's trade with foreign countries

48 Three sets of statements of foreign trade are published, the first showing <sup>Statements of</sup> the imports and exports of the whole of British India from and to foreign countries, <sup>Foreign trade.</sup> the second, the imports and exports of British India excluding Burma from and to Burma and foreign countries, and the third the imports and exports of Burma itself from and to other parts of British India and foreign countries

49 The imports are in all cases *net* imports both as regards value and quantity, the re-exports having been deducted Imports from and exports to foreign countries by parcel post have been included, but not, as a rule, the contents of foreign registered letters received and despatched The imports and exports of



Government stores have also been excluded from these statements Every one of the three sets of statements of foreign trade shows —

- (1) The declared values of imports year by year from 1890-91 to 1911-12
- (2) The declared values of exports year by year from 1890-91 to 1911-12
- (3) The quantities of imports year by year from 1890-91 to 1911-12
- (4) The quantities of exports year by year from 1890-91 to 1911-12

The first two sets (*i.e.*, that for India, and that for India excluding Burma) show in addition the values of the imports and exports of all articles calculated at the average prices of the quinquennium 1890—1894

50 Another set of statements shows the comparison between the declared values of the total imports and exports, and also those of some important classes of articles for each year and the average of the quinquennium 1890-91 to 1894-95, and the distribution of the differences according as they are due to (i) fluctuations in quantities, (ii) fluctuations in prices and (iii) fluctuations in prices on the differences between the quantities of any year and the averages of the quinquennium 1890-91 to 1894-95 The percentage figures under head (ii) above show the extent of the rise or fall in the price-level of the commodities concerned, the average price of the quinquennium 1890-91 to 1894-95 being taken as 100 These statements have been adapted with some amplification from a publication of the Board of Trade, London

#### Provincial trade

51 Statistics are also published of the total trade of the several provinces, carried by road, rail, river and sea and also India's trade with other countries carried over the land frontier The value figures for these are not reliable and as they might lead to misapprehension, only statistics of quantities are published Details regarding the sources and the methods of compiling the statistics of trade will be found in Appendix H

### COMMUNICATIONS

#### Improvement in communications

52 Another set of exhibits shows the development of communications from 1890 onwards, separately for each circle and for the whole of India It is well-known that in recent years the improvement of communications has played a most important part in the internal development of the country The growth of railways and other means of communication has done much to bring the different parts of India into contact with one another Railways have increased with great rapidity since 1881 To-day there are 33,000 miles of railway in India and Burma as compared with 25,300 miles in 1901, 17,300 miles in 1891, 9,900 miles in 1881, 5,100 miles in 1871 and 1,600 miles in 1861 The following table shows the open mileage of railways in India (excluding Burma) during each of the years 1890 to 1912 —

Year	Mileage	Year	Mileage
1890	15,865	1902	24,573
1891	16,696	1903	25,452
1892	17,148	1904	25,956
1893	17,826	1905	26,805
1894	18,188	1906	27,503
1895	18,756	1907	28,345
1896	19,365	1908	28,953
1897	20,251	1909	29,962
1898	21,046	1910	30,542
1899	22,606	1911	31,268
1900	23,640	1912	31,981
1901	24,082		

53 Before railways were constructed, the cultivator derived little benefit from an abundant harvest. His markets were confined to a small area, and if the supply was greater than the demand, as it would be in a good year, prices fell and he lost the profits from the larger yield and sometimes found it more economical to leave part of his crop uncut. Railways have altered these conditions. They have rendered possible the transfer of supplies from areas of plenty to areas of scarcity. The smallness of the variations in prices in recent years, all over India, even in years of famine, and the feasibility of alleviating distress at a comparatively small cost are perhaps the best justification of railway extension. When one area is suffering from famine, another area is likely to have an abundant harvest, and it is possible for the surplus produce of one part to supply the deficits of another. In fact, famine no longer means scarcity of food supplies but mere scarcity of money to buy food which is always less difficult to meet. It is no longer possible to find, as in the years 1802-1804, a period of terrible famine in the Deccan and Rajputana, while the price of bajra in Gujarat did not rise higher than 27 seers per rupee, for want of means to convey the surplus grains of Gujarat to the famine-stricken districts. In 1864-65 and 1877-79, there was no famine in Gujarat but a very severe famine in other parts of India where owing to facilities of communications grain was exported from Gujarat, so that the price of bajra in Kaira actually rose to  $7\frac{1}{2}$  and 9 seers in the two years. In the United Provinces, in 1838, the price of wheat rose in Agra to  $13\frac{1}{2}$  seers, while in Khandesh the price of jowar was as low as 61 seers. In 1861 and 1869, there was again a famine in the United Provinces, and no failure of crops in Khandesh. The railway, however, which had brought Khandesh into direct communication with Agra, was the means of levelling up prices so that the price of wheat in Agra was 14 and 12 seers and that of jowar in Khandesh 16 and  $12\frac{1}{2}$  seers. During the twelve months ending September 30th, 1900, for example, food grains to the enormous extent of nearly 2,500,000 tons were imported into famine-stricken areas which in ordinary years exported about 250,000 tons. It is evident that in a vast country like India, which is predominantly agricultural and where crop prospects are so widely divergent and distances so great, railways must exercise a great influence over prices.

54 Railway returns, it is interesting to note, show that the ordinary trade, during the last two decades, in millets, pulses and other minor food products has not been less brisk than that in articles of international trade such as wheat, cotton, oil-seeds, and that movements of articles of luxury such as sugar, tobacco, spices, etc., have also very largely developed. The advent of the railway has been of special advantage to the peasantry. In all the large productive tracts, the introduction of railways is usually followed by the substitution of central markets, where the producers are brought face to face with dealers and brokers and are no longer dominated by the village shopkeeper who would take over the crop from the cultivators at his own valuation, which is not often that of the market at which he himself disposes of it. The villager is thus brought into touch with the outer world, he learns the ways of trade, and reaps the profit of bountiful harvests. With the railways, there has been a remarkable development of the carting industry owing to the traffic between railway stations and the markets of the interior. Even the smallest cultivator has thus benefited, because his plough bullocks are no longer out of work for nearly half the year, or let out at the lowest possible rate. The owner of a cart now keeps his cattle at work for the greater part of the year at a remunerative rate, since for distances of 30 miles and less, carts compete, generally speaking, successfully with the railway. The main effect of the great extension of railways that has characterised the last 20 years has been the steadying influence described above, which tends to the equalisation of prices. In the tracts which have been recently opened out, the price of produce has obviously risen in accordance with

the intensity of the demand for its surplus elsewhere. The Deccan and other regions of uncertain harvests have great seasonal fluctuations. Now, prices keep within comparatively moderate limits and it is no longer in the power of the local Bunnia to keep up prices higher than in other localities allowing for the charges of transport.

**Statistics of Railway mileage.**

55 The statistics published show the progressive open mileage of every railway and of the collective open mileage in each circle in each year from 1890 to 1912. The statements have been compiled from information furnished by the different railways. The Railway Administration reports do not show the mileage of railways by civil districts, but the total mileage of each railway as shown in these reports have been reconciled with the district totals furnished by the different Railway administrations.

**Extension of roads**

56 With the extension of the Railway system, it has become more and more necessary to construct roads to feed the railways. Before the advent of railways, roads were the only means of communication for the exportation of surplus produce and as the harvest season coincided with the drying up of the rivers, there was not much need for bridges except on the great trunk roads, while even on these, permanent bridges have not to this day been constructed over many of the large rivers, ferries or floating bridges doing duty in their place. The former roads were, in many cases, merely embankments across low-lying places with easy graded approaches to rivers and cleared and linked surfaces elsewhere. With the introduction of railways, conditions have altered and a demand for bridged and metalled communications have been created which would give access to the railway line at all times of the year. Railways have thus had a great influence in stimulating progress in road-making and developing the traffic to be carried over them.

57 The extension of Local Self-Government has also had a great influence in the same direction. Most provinces of British India are now provided with District and Sub-district boards, whose primary duty it is to apply the funds at their disposal to the maintenance and improvement of local communications, which have, under this system, been developed to a remarkable extent.

58 Statistics are published showing the progressive total mileage of roads metalled and unmetalled, in each circle and in all India, year by year, from 1890 to 1912. They have been compiled from information furnished by District and Sub-district boards, Municipalities and Public Works officers regarding roads under their respective control. The figures were not complete in some cases and have involved the most careful examination, allowance having had to be made for the transfer of some roads from one controlling authority to another. Some roads originally metalled have gradually degenerated into unmetalled ones and some unmetalled roads having become unimportant have been gradually abandoned altogether. Variations due to remeasurement, realignment, and erosion by rivers, and sudden increases in mileages in some years by special famine relief works constitute some of the other causes of the peculiar fluctuations observable in the statistics published. In the case of the districts of Lucknow, Ganjam, Coorg, and the hill districts of Assam, it has not been possible to get any reliable information at all and they have accordingly been omitted altogether.

59 Roads and railways, together, have revolutionised the methods of transport, so much so that pack animals, on which the country was chiefly dependent for the purpose, have been almost entirely displaced by wheeled vehicles throughout the greater part of the country. It is only where railways have not penetrated, that pack transport has preserved any important share of long distance traffic, except in sandy or hilly tracts where a considerable amount of local traffic is still dependent on this means of conveyance.

60 With the growth of communications by railway and road there has been a considerable increase in telegraphic communications. The telegraph has linked India on to world markets. The Indian Telegraph Department transfers telegrams to the Indo-European Telegraph at Karachi, to the Eastern Telegraph Company at Bombay, and to the Eastern Extension, Australasia, and China Telegraph Company at Madras. It has also wire connections with the Chinese Imperial Telegraphs at Nampaung in the Bhamo District, and with the Siamese Telegraphs at Myawaddy and Sinbyoodine and also interchanges with the telegraphic systems of Ceylon and Portuguese India, and of the Kashmir State.

Extension of  
communication  
by telegraphs

61 The original tariff for messages between India and the United Kingdom was £5 per 20 words. In 1868, this was reduced to £2-17-6, and in 1871 it was raised to £4-10-0. In 1875, the woid rate was introduced which was fixed at 5½ francs *via* Suez or Teheran, and 5 francs *via* Turkey. In 1881, the rates were increased to some extent but, in 1885, they were again reduced to 5 and 4½ francs respectively. Since then the rates have been gradually reduced and an important modification has recently been brought into force by which very much cheaper rates are charged for what are called Deferred telegrams. Owing to the reduction in charges in recent years the traffic has developed to an enormous extent.

Reduction in  
telegraph rates

62 The following figures have been obtained from the annual administration reports of the Indian and Indo-European Telegraph Departments —

Growth of telegraph  
business

Year	Mileage of lines	Total number of Offices	Number of telegrams (in thousands)	Total receipts (in lakhs of rupees)
1860 61	11,093	145		6
1870 71	13,534	197	577	13
1880 81	20,346	254	1,656	39
1890 91	37,070	949	3,407	52
1900 01	55,035	1,039	6,449	93
1903 04	59,692	2,127	7,307	85
1904 05	61,684	2,189	9,098	88
1905 06	64,730	2,309	10,461	92
1906 07	67,537	2,438	11,385	95
1907 08	68,940	2,544	12,750	1,00
1908 09	70,065	2,658	13,007	97
1909 10	72,746	2,762	12,085	86
1910 11	74,828	2,856	13,090	93
1911 12	76,771	2,978	14,720	1,04

63 In many inland parts of India, to-day, merchants daily receive copies of Reuter's cables containing the prices of various staples prevailing in the great markets of Europe. It has frequently been pointed out that with the great increase in communications it is now possible for a Calcutta merchant to contract, through a clerk and the telegraph, with the manufacturer or dealer, at any of the world's great centres of commerce, however distant, to sell him jute, hides, oilseeds, cotton, shellac or other Indian produce. Mr D A Wells in his book, "Recent Economic Changes," quotes his own experience. He journeyed from New York to Washington with an eminent Boston merchant engaged in the Calcutta trade. Calling upon the merchant the same evening after arrival in Washington he said "Here is something, Mr ———, that may interest you. Just before leaving State Street, in Boston, yesterday forenoon, I telegraphed to my agent in Calcutta, 'If you can buy hides and gunny-bags at — price, and find a vessel ready to charter, buy and ship.' When I arrived here (Washington) this afternoon (4 P M), I found awaiting me this telegram from my partner in Boston covering another from Calcutta, received in answer to my despatch of the previous day, which read as follows 'Hides and Gunny-bags purchased,

vessel chartered and loading begun' Here then, as an every-day occurrence, was the record of a transaction on the other side of the globe, the correspondence in relation to which travelled a distance equivalent to the entire circumference of the globe, all completed in the space of little more than twenty-four hours "

### FREIGHT STATISTICS

Importance of  
freight statistics

64 The importance of freights as a factor in determining prices, especially those of the great staple products of agriculture and manufacture, is well known. Freights have had a very great influence in the last 20 years in affecting *relative* price levels not only in different countries, but in different parts of the same country and it was clear from the outset of this enquiry that without any effort to measure the extent of the changes in the cost of maritime and Railway transport, this report would be seriously defective

65 The decrease in Railway transportation charges in India, during recent years, has had very important effects and on this important point it is worth while to quote the remarks of the Famine Commission of 1898 —

" It is clear that the very marked tendency to equalisation of prices throughout India is due to the great extension of railways and to the opening up of large tracts of country formerly provided with inadequate means of communication. On almost all railways in India the sanctioned rates for grain vary from one-third to one-tenth of a pie per maund per mile

In 1880, according to the Famine Commissioners, the charge for transport between the most distant parts of India connected by rail was about one anna per seer, and grain could be bought costing 24 seers per rupee in Northern India and sold with fair profit in Southern India at 8 seers the rupee. At the present time, grain would be carried 1,000 miles for a little over 10 annas per maund of 40 seers, and wheat selling in the Punjab at 12 seers the rupee could, if on the line of rail, be placed off 1,000 miles and sold at 10 seers per rupee "

66 Statistics have accordingly been compiled of the railway transportation charges for important articles of commerce for selected leads. Maritime transportation charges from Calcutta, Bombay, Madras and Karachi to foreign ports have also been tabulated and also for some classes of articles from London to the Indian Ports. The sources from which the various rates have been obtained and the methods according to which they have been tabulated are explained in Appendix J

### POPULATION STATISTICS

Why population  
statistics have been  
compiled

67 Statistics of population have been compiled from the census reports of 1891, 1901 and 1911. In the first place, it is necessary to see whether population has increased more rapidly than the means of subsistence. In the second place, an analysis of the census tables of occupation might give indications regarding changes in the industrial organisation of India and show whether there is a continuous exodus into towns where wage-earners obtain better remuneration for their labour. The statistics of population might also be valuable as affording a rough means of judging the effect of the rise in price levels. Given the increase of prices during the period under examination, the earnings during the same period of those engaged in agriculture, manufacture or commerce, or of those belonging to professions, not to mention the less definite category of the general unskilled labourers, and also the numerical strength of the different classes as shown in each of the census reports, it might be possible to gauge, to some extent, the effects of the price changes on the different sections of the population and on the country as a whole. In India, it is extremely difficult to show the

number engaged in each occupation. This, however, is a difficulty which is not confined to India alone. In the United States and in Germany, it has been held that a population census cannot be expected to give the requisite information regarding occupation, and that a comprehensive industrial survey obtained by detailed investigation and spread over a considerable time is to be preferred. In the report of the Census of England and Wales for 1891 it is said, "A census . . . does not supply data which are suitable for minute classification or admit of profitable examination in detail. The most that it is reasonable to expect from data so collected is that they shall give the means of drawing such a picture of the occupational distribution of the people as shall be fairly true in its main lines, though little value can be attached to the detailed features. It is not wise to demand from a material a result for the production of which it is unsuited." Experts in industrial economics have shown that in the English census also the returns of occupation are incomplete in important particulars.

68 For the purposes of this enquiry abstracts have been compiled from the occupation tables of the census reports for 1901 and 1911, showing the occupation of the population of the different circles and of British India as a whole under the following main heads —

Classification of  
population  
according to  
occupation

<p><b>A — PRODUCTION OF RAW MATERIALS</b></p> <p><b>I Exploitation of the surface of the earth—</b></p> <p>1 Pasture and Agriculture— Income from rent of agricultural land Ordinary cultivators Farm servants and field labourers Growers of special products Raising of farm stocks Others</p> <p>2 Fishing Hunting</p> <p><b>II Extraction of minerals—</b> Mines— Coal Others</p> <p><b>B — TRANSFORMATION AND EMPLOYMENT OF RAW MATERIALS</b></p> <p><b>III Industry—</b> Textiles Hides, Skins, etc Wood Metals Ceramics Chemical products, etc Food industries Industries of dress and the toilet Building industries Industries of luxury, etc Other industries</p>	<p><b>IV Transport—</b> Transport by water " by road " by rail Other Transport</p> <p><b>V Trade—</b> Banks, etc Trade in textiles Trade in other foodstuffs Other trades</p> <p><b>C — PUBLIC ADMINISTRATION AND LIBERAL ARTS</b></p> <p><b>VI and VII Public force and Public Administration</b></p> <p><b>VIII Professions and Liberal arts</b></p> <p><b>IX Others</b></p> <p><b>D — MISCELLANEOUS</b></p> <p><b>X Domestic Service</b></p> <p><b>XI Others</b></p> <p><b>XII Unproductive</b></p>
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69 It has not been found possible to compile a similar abstract for the census of 1891, on account of the many points of difference in the classification, and, more specially, as no differentiation was attempted in the census of 1891 between makers and sellers, who have been grouped under entirely different classes in the census of 1911. The reclassification of the figures of 1891 would, therefore, necessitate the splitting up of a large number of heads arbitrarily, to bring them into line with those of the 1901 and 1911 censuses. No reliance could be placed on a compilation in which figures had to be manipulated arbitrarily and any comparison with manipulated figures would be altogether useless.

70 The difficulties of compiling occupation tables and the inaccuracies inherent in the statistics published in the census reports are discussed in Appendix K

Factors affecting  
growth of  
population

71 The most important factor affecting the growth of population between 1891 and 1911 was famine. The familiar furies always in the train of famine are cholera, dysentery, and fever which play havoc with an already exhausted and enfeebled population. In years of famine, in the last two months of the hot weather, when the stress on the people reaches its climax, the danger of cholera is particularly great. It has been estimated that, during the two famines of 1896-97 and 1899-1900, the death roll exceeded the normal mortality of non-famine years by 5,000,000, of which the greater proportion occurred in Native States. This abnormal mortality was, however, due, only in a small degree, to actual starvation, cholera, dysentery, fever, and other epidemics claimed most of the victims. Another important factor to be remembered in connection with the statistics of population is the plague which commenced in the city of Bombay in September 1896. Between the date of the first official intimation of the existence of plague and the census of 1901, three-quarters of a million had died of this dreadful disease. Since the Black Death of the fourteenth century there has never been such mortality from plague as in India between 1896 and 1912. The mortality was even from 70 to 85 per mille, though at times it was considerably higher. The Punjab had lost by 1912 about 2,250,000 persons from plague out of a total population of under 20,000,000, the mortality in that Province was highest in the villages, but some of the towns also suffered severely, the town of Dunga having had the phenomenal mortality of 119.20 per mille in 1907. It is interesting to note that the million limit in the plague mortality of all India in any single year was not reached till 1904, when 1,143,993 deaths were recorded. There were occasional fluctuations, as in 1908, when the plague mortality for all India dropped to 156,000, while in the previous year it was 1,315,000. It is indeed a remarkable thing that the statistics of population show the increase, which they do, between 1891 and 1911, when the period had witnessed two of the greatest of famines and for three-quarters of the time plague had raged throughout the country in a more or less virulent form. At the same time remarkable economic changes have been at work—railways have been constructed, irrigation extended, jute, cotton, and tea cultivation developed, coal mines in north-eastern India, gold mines in Mysore, jute and cotton mills, etc., have all increased in number and all these have resulted in increased prosperity and the opening up of many new avenues of employment.

#### RENT STATISTICS

72 Rent statistics are also published in order to show how far landlords have benefited by the rise in the prices of Indian produce. If by the opening up of the various parts of the country by railways and roads, exports have been encouraged (these exports being chiefly of agricultural produce), the effect of the development of India's external trade may, in some degree, be to give a part of the resulting profit to landlords in the shape of increased rents. The pitfalls in this part of the work are more numerous than in any other. It has been necessary to verify every step in personal consultation with experienced officers of the provinces for which it has been possible to publish rental statistics. A single statement of fact hardly applies even to a single province without very large exceptions. The chief difficulties are—(1) The increasing accuracy of the returns of rents, resulting in the rise being overstated. This is a very serious matter and in the Revenue Administration Reports of most zemindari provinces we find congratulatory remarks on the progress made in improving the records. One Director of Land Records has said that this fact robs the statistics of all value for comparative purposes. (2) Sudden changes in the course of settlement. It would, in some cases, be statistically inaccurate to compare the districts where the settlement has been revised during the period

Necessity of  
compiling rent  
statistics and its  
difficulties

under investigation with districts of the same province where no revision has taken place within that period, because in the former case there will be a sudden rise justified by events, some of which occurred before the period 1890-1911 (3) the large differences in the classification of land tenures in the several provinces is very puzzling (4) grain rents are also a source of difficulty, and each province it may be said, has its own peculiarities in this respect. The figures given in Administration Reports sometimes include, for the United Provinces, for example, an estimate of the value of rents in kind and the value of such rents has gone up automatically with the increase of prices. If cash rents could have been estimated, it would still be most difficult, even if we were able to get at the real rise, to say how far this rise reflected a rise of prices. The tenants are under some sort of protection as regards the period when rents may be raised, and the extent to which the rents may be enhanced must be taken into consideration. The rent laws, such as those of Bengal and the United Provinces, ordinarily allow rents being enhanced in the same proportion as the rise in the prices of produce, after due allowance has been made for the rise in the cost of cultivation.

73 Rent statistics in Revenue reports, although giving a fairly adequate indication of the fact that rents have risen during a certain period, cannot be taken as indicating altogether the extent to which rents have been influenced by prices. Moreover, we may eliminate the effect of increased cultivation by taking the incidence per acre, but there will still remain to be considered the changes in the character of the cultivation, such as the extension of cultivation to inferior lands or the introduction of irrigation.

74 The rent statistics published are for the United Provinces, the Central Provinces and the Punjab. For Bengal and also for Bihar and Orissa, statistics showing the increase in the amounts of road cess, which are based on rentals, are published for typical districts and these will indicate, to some extent, the increase in the rents paid to landlords. The sources from which these statistics have been obtained and the reasons for which it has not been possible to publish the statistics for other provinces are explained in Appendix L.

#### MISCELLANEOUS STATISTICS

75 Statements have been prepared showing the absorption of gold and silver in India. The quantity and the value of gold produced in India, the quantities of gold imported and exported, the net imports of gold, the total receipts, the disposal of the progressive total together with the absorption of the year, and the average rate of exchange are all shown in separate columns in the statement. The absorption of gold in India rose from Rs 6,20 lakhs in 1890-91 to Rs 11,97 lakhs in 1903-04, to Rs 22 crores in 1907-08, and to 27,19 lakhs and 27 11 lakhs, in 1910-11 and 1911-12 respectively, so that the remark of Seyd in 1868 in his work on "Bullion and Foreign Exchanges" that "except during the few years of an occasional stagnation of trade, India is always an importer of bullion to a considerable amount, sufficiently so indeed as to alarm Europe" is still true. It is interesting also to note that the remarkable increase in the absorption of gold has not been at the expense of silver. India has also been absorbing a much larger quantity of silver than before.

76 Another statement shows how the Balance of trade in India has been adjusted year by year since 1876-77. It is necessary to give a few explanations in regard to this statement. On the one side of the account are the payments due to India for her exports, for the import of capital into India, for remittances from foreign countries to persons residing in India including tourists, on the other side, we have the payments due by India for imports from abroad, the Secretary of State's drawings, the interest on capital invested in India through private channels, investment in other countries of the earnings of foreign



merchants, lawyers and other professional men doing business in India, and employes in State and private service, the earnings of foreign steamers employed in the coasting and foreign trade of India, remittances to Indians residing in foreign countries and premiums on policies issued by foreign insurance companies, etc. It is impossible to estimate many of these items with any pretence to accuracy, I have, therefore, included in the statement only such items for which statistical data are available. The sea-borne trade figures of imports and exports in this statement exclude Government stores as the former are paid for by Council bills, and the value of exports comparatively very small. Frontier trade has also been neglected, although in recent years it has been of some importance, the grand total in 1910-11 of exports and imports having been  $9\frac{1}{2}$  crores of rupees. According to statistics, it generally results in a net import into India of articles to the value of about  $1\frac{1}{2}$  crores. Doubt has, however, been expressed as to whether the balance is in favour of or against India, and for the present purposes I have considered it best to neglect the frontier trade altogether. In recent years, the Secretary of State has always attempted to regulate his drawings of Council bills as far as possible in accordance with the demands of trade, and the total amount of his bills has generally been in excess of the amounts required by him to meet his sterling liabilities. As explained in Appendix M, these extra amounts have been taken to strengthen the portions of the Currency and the Gold Standard Reserves held in England. The imports and exports of enfacéd rupee paper are only part of what should be classified under transfers of securities. The figures include only the amounts which pass through the Public Debt Office accounts. Securities, such as shares of jute or cotton mills, are sometimes remitted to and from India, but their amount cannot be estimated with any accuracy. The declarations in the bills of entry for imports and in the shipping bills for exports, which are examined by Custom House Officials, show the wholesale cash price less trade discount for which goods of like kind and quality are being sold at the time and place of importation and exportation respectively. The declared import prices, therefore, include shipping charges and freights, while the values of exports exclude charges for freight. In a statement of India's balance of trade no adjustment on account of freight is, therefore, generally necessary, except for the coasting trade. As regards the balance left for adjustment, it should be noted that a small percentage of under or over-declaration in the values of exports or imports may make a serious difference in the total figures. An error of two or three per cent makes a difference of several crores of rupees. Thus, an over-valuation of only one per cent for exports and an under-valuation to the same extent for imports would result in an error for 1911-12 of more than 3 crores of rupees in the final result. It should also be remembered that the balance of trade of a country is never settled within any precise twelve months, but if a series of years be taken the balance outstanding at the end of the period should not differ substantially from that outstanding at the commencement.

#### BRIEF ACCOUNT OF THE INDIAN CURRENCY SYSTEM AND ESTIMATE OF RUPEES IN CIRCULATION

77 Many writers have held that the change in the system of Indian Currency from a silver to a gold standard has exercised a very important influence on the general price level of India. Some have also held that prices have gone up in India in consequence of the heavy coining of rupees by Government in the last decade, which in their opinion has led to a redundancy of rupees in circulation. It has, therefore, been considered desirable to give in Appendix M a brief account of the changes in the Indian Currency system and of the circumstances which necessitated the adoption of a gold standard. The total amount of rupees in circulation from time to time has also been estimated, and a memorandum added showing the details of the calculation.

## CHAPTER IV.

## Analysis of Variations in Price Levels.

78 The index numbers of wholesale prices for the several classes into which commodities have been divided and for the different economic circles have been summarised to show— What the index numbers show

- (1) the extent of the rise in the general level of prices in India ,
- (2) whether the rise has affected all classes of commodities alike or is especially marked in particular classes , and
- (3) whether the rise has or has not been especially marked in any of the homogeneous economic circles

## THE EXTENT OF THE RISE OF PRICES

79 The next four tables show the index numbers of wholesale rupee prices for India of all classes of commodities, as well as those of their equivalents in gold converted at the respective rates of exchange of the different years concerned. Wholesale prices have been used as they are more sensitive than retail prices in reflecting industrial and trade conditions. Retail prices represent the cost of commodities to the consumer and, for estimating variations in the cost of living, form a better guide than wholesale prices. Retail prices in India, however, correspond in their movements generally with wholesale prices, especially because, unlike European countries, the cost of retailing in India is extremely small. The index numbers of retail prices in the different economic areas have also been published and will be examined later on in showing how far wages have risen *pari passu* with the increased cost of living. Wholesale prices more sensitive than retail prices

80 The fluctuations in price levels have been large in the majority of the groups of commodities. The prices of many groups have moved up and down more or less rapidly, and the effect of temporary causes is clearly perceptible in the variations from year to year. Thus, when agricultural conditions have been so unfavourable as to cause a decrease in the outturn of agricultural products, the prices of these products have risen and with favourable agricultural conditions and an increase in the supply, prices have gone down. To eliminate the effects of these temporary causes, smoothed averages are published for periods of five years, the first quinquennium consisting of the basic period, and the subsequent quinquennial being made up of the last four years of the previous quinquennium and the year immediately following it. Smoothed averages eliminate effects of temporary causes

*Index Numbers for India of Rupee Prices of different groups of articles for the years 1890-1912*

Years	Foodgrains— Cereals	Foodgrains— Pulses	Sugars	Tea and coffee	Other articles of food.	Oilseeds, oils and oleoate	Textiles—Jute	Textiles—Cotton	Other textiles	Hides and skins	Metals	Other raw and manufactured articles	Building materials	General Average	General Average of Gold prices
1890	93	97	99	95	99	97	92	102	101	95	98	100	99	97	113
1891	99	100	100	94	97	98	94	96	97	95	98	98	99	98	106
1892	110	107	98	103	101	101	105	95	95	96	100	99	99	103	100
1893	103	101	102	98	103	104	103	105	104	105	100	102	101	102	96
1894	95	95	101	110	100	100	106	102	103	109	104	101	102	100	85
1895	94	102	98	100	94	104	103	102	99	120	105	106	104	101	89
1896	100	114	98	94	99	109	104	102	92	111	104	108	107	106	99
1897	148	159	101	83	110	114	92	98	88	109	105	103	109	121	120
1898	109	115	100	78	110	101	89	91	84	113	106	101	112	106	109
1899	100	102	97	71	109	101	97	87	94	124	122	103	113	104	108
1900	134	139	104	67	120	122	109	108	88	115	137	112	116	122	126
1901	116	130	101	66	117	118	101	104	83	118	121	107	118	116	120
1902	109	116	91	65	108	114	95	102	84	126	116	104	120	111	115
1903	101	106	92	66	106	100	103	106	93	136	116	106	122	107	111
1904	97	99	96	65	106	95	109	121	91	141	113	110	125	106	110
1905	112	115	105	65	115	112	127	113	98	148	115	112	128	116	120
1906	132	140	99	65	124	132	157	121	98	164	126	118	131	129	134
1907	139	147	99	72	125	141	154	123	102	161	137	123	134	133	138
1908	168	179	106	68	124	145	119	121	86	150	121	122	136	143	147
1909	146	148	100	71	124	131	111	119	93	152	116	122	138	133	125
1910	127	124	112	79	130	143	119	141	96	164	118	127	142	132	137
1911	126	122	109	83	133	149	144	145	95	159	119	126	146	134	139
1912	143	141	111	85	136	156	160	137	98	172	128	132	149	141	147

*Index Numbers for India of Gold Prices of different groups of articles for the years-1890-1912*

Years	Foodgrains—Cereals	Foodgrains—Pulses	Sugars	Tea and coffee	Other articles of food	Oilseeds and oilcake	Textiles—Jute	Textiles—Cotton	Other textiles	Hides and skins	Metals	Other raw and manufactured articles	Building materials	General Average	General Average of Rupee prices
1890	100	113	115	112	116	113	108	119	118	112	115	117	116	113	97
1891	107	108	108	103	105	106	102	104	105	103	106	106	107	106	98
1892	107	104	96	100	98	98	98	92	92	93	97	96	96	100	103
1893	97	95	96	93	97	98	98	99	98	99	94	96	95	96	102
1894	80	80	85	93	84	85	90	86	87	93	88	85	86	85	100
1895	83	90	87	89	83	92	91	90	87	106	93	93	92	89	101
1896	102	106	92	88	93	102	98	95	86	104	97	101	100	99	106
1897	147	158	100	83	109	113	92	97	87	109	104	102	108	120	121
1898	112	119	104	81	114	104	92	94	87	117	110	104	116	109	106
1899	104	106	101	74	113	105	101	90	98	129	127	107	117	108	104
1900	138	143	108	69	124	126	113	111	91	119	142	115	120	126	122
1901	120	134	105	68	121	122	105	107	86	123	125	110	122	120	116
1902	113	120	94	68	112	118	99	105	87	131	120	107	124	116	111
1903	105	110	96	69	110	104	107	110	96	142	120	110	126	111	107
1904	100	103	100	68	110	98	114	125	94	147	117	114	130	110	106
1905	116	119	109	69	119	116	132	117	102	154	119	116	133	120	116
1906	137	145	104	68	129	137	164	126	102	171	131	123	136	134	129
1907	144	152	103	75	129	146	160	127	106	168	142	127	139	138	133
1908	173	184	110	71	128	149	123	125	89	156	125	126	140	147	143
1909	151	153	113	74	129	136	116	123	96	158	120	126	143	138	133
1910	132	129	117	82	135	148	124	146	100	171	123	132	147	137	132
1911	131	127	114	87	138	155	150	151	99	166	124	131	152	139	134
1912	148	146	116	89	142	162	167	142	102	180	133	137	155	147	141

*Quinquennial average Index Numbers for India of Rupee Prices of Different Groups of articles for the years 1890-1912*

1890-94	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100*
18'1-95	100	101	100	101	99	101	102	100	100	105	101	101	101	101	95
1892-96	102	104	99	101	99	104	104	101	99	108	103	103	102	102	94
1893-97	110	114	100	97	101	106	102	102	97	111	104	104	105	106	98
1894-98	111	117	100	93	103	106	99	99	93	112	105	104	107	107	100
1895-99	112	118	99	85	104	106	97	96	91	115	108	104	109	108	105
1896-1900	120	126	100	79	110	109	98	97	89	114	115	105	111	112	112
1897-01	121	129	101	73	113	111	98	98	87	116	118	105	114	114	117
1898-02	114	120	99	69	113	111	98	98	87	119	120	105	116	112	116
1899-03	112	119	97	67	112	111	101	101	88	124	122	106	118	112	116
1900-04	111	118	97	66	111	110	103	108	88	127	121	108	120	112	116
1901-05	107	113	97	65	110	108	107	109	90	134	116	108	123	111	115
1902-06	110	115	97	65	112	111	118	113	93	143	117	110	125	114	118
1903-07	116	121	98	67	115	116	130	117	96	150	121	114	128	118	123
1904-08	130	136	101	67	119	125	133	120	95	153	122	117	131	125	130
1905-09	139	146	104	68	122	132	134	119	95	155	123	119	133	131	135
1906-10	142	148	105	71	125	138	132	125	95	158	124	122	136	134	139
1907-11	141	144	107	75	127	142	129	130	94	157	122	124	139	135	140
1908-12	142	143	109	77	129	145	131	133	94	159	120	126	142	137	142

*Quinquennial average Index Numbers for India of Gold Prices of Different Groups of articles for the years 1890-1912*

1890-94	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100†
1891-95	95	95	94	95	93	96	97	94	94	99	96	95	95	95	101
1892-96	94	95	91	93	91	95	96	92	90	99	94	94	94	94	102
1893-97	102	106	92	89	93	98	94	93	89	102	95	95	96	98	106
1894-98	105	111	94	87	97	99	93	92	87	106	98	97	100	100	107
1895-99	110	116	97	83	102	103	95	93	89	113	106	101	107	105	108
1896-1900	121	126	101	79	111	110	99	97	90	116	116	106	112	112	112
1897-01	124	132	104	75	116	114	101	100	90	119	122	108	117	117	114
1898-02	117	124	102	72	117	115	102	101	90	124	125	109	120	116	112
1899-03	116	123	101	70	116	115	105	105	92	129	127	110	122	116	112
1900-04	115	122	101	68	115	114	108	112	91	132	125	111	124	116	112
1901-05	111	117	101	68	114	112	111	113	93	139	120	111	127	115	111
1902-06	114	119	101	68	116	115	123	117	96	149	121	114	130	118	114
1903-07	129	126	102	70	119	120	135	121	100	156	126	118	133	123	118
1904-08	134	141	105	70	123	129	139	124	99	159	127	121	136	130	125
1905-09	144	151	108	71	127	137	139	124	99	161	127	124	138	135	131
1906-10	147	153	109	74	130	143	137	129	99	165	128	127	141	139	134
1907-11	146	149	111	78	132	147	137	134	98	164	127	128	144	140	135
1908-12	147	148	114	81	134	150	136	137	97	166	125	130	147	142	137

\* General average of Gold Prices

† General average of Rupee Prices.

81 During the five years, which have been taken as the base for the purpose of calculating index numbers, the gold price of silver declined steadily and the rate of exchange between India and England fell from 18 089*d* to 13 1*d*, while the rupee prices of commodities fluctuated within moderate limits. They rose gradually six points in the first three years and then dropped three points in the next two years. Gold prices of commodities, on the other hand, fell in those years steadily from a level of 113 to 85, or 25 per cent. The gold and rupee index numbers in these five years, therefore, differ remarkably. The steady fall in the gold value of the rupee was accompanied by a steady decline in the general (gold) price level until 1894, when, as just mentioned, it stood at 85, or 15 points below the general average of the five years 1890-1894, while the index numbers of the rupee prices in 1890, 1891, and 1894 were practically the same and those of 1892 and 1893 were only a few points higher. From 1895 to 1897 when exchange was rising from 13 1*d* rapidly, the rupee price level, as compared with the average of the five years 1890-94, was higher than the level of gold prices. But since 1898, when exchange became practically fixed at 1*s* 4*d*, the index numbers of gold and rupee prices moved in the same direction, although the former were higher than the latter by 4 to 5 points. For the later years, therefore, the gold and rupee prices will, either of them, serve the purposes of comparison equally well.

Fluctuations in Gold  
and Rupee prices

82 The tables show that, if rupee prices be taken into account, the general price level was fairly steady from 1890 up to 1895, there being only a slight rise in 1892 and 1893 as already mentioned. With a severe famine prevailing over the greater part of India, the general price level rose to 106 in 1896 and to 121 in 1897. The rise manifested itself chiefly under food-grains—"pulses" and "cereals," the prices of which rose 59 and 48 per cent, respectively, in 1897. There was also an increase of 14 per cent in "oilseeds and oils," of 10 per cent in "other articles of food," and of 9 per cent in "hides and skins," and "building materials." The prices of most of the other classes of articles, except "jute," "tea and coffee" and "other textiles," stood at about the level of the basic period. The prices of "jute," "tea and coffee" and "other textiles" fell to 92, 83 and 88 respectively. The result was that the price level, as a whole, rose only 21 per cent above the basic period. Agricultural conditions were generally favourable throughout India in the two following years and the general price level dropped to 106 in 1898 and to 104 in 1899, the level in the latter year was thus practically the same as that of 1892 and 1893. In that year the price of "cereals" dropped to the level of the basic period, and that of "pulses" also fell considerably, being only 2 per cent higher than the level of the basic period. In both cases, prices were considerably lower than the level of 1892. The price of "other articles of food," however, remained at about the high level of 1897, while there was a large increase in some of the other articles. Thus, "hides and skins" rose to 124, "metals" to 122, and "building materials" to 113. In fact, in these latter articles there was almost a continued and steady rise since the beginning of the period under investigation.

Fluctuations  
1890-1899

83 With a disastrous famine in Northern India, the Central Provinces and Bombay, the general price level rose again to 122 in 1900, or higher than the level of 1897. The rise extended, more or less, to all circles and, with the exception of "tea and coffee," "other textiles," and "hides and skins," affected all commodities. As was to be expected, the proportionate increase was greatest in foodgrains cereals, foodgrains pulses and oilseeds, the prices of which rose to 134, 139 and 122 respectively. Thus the rise in the first two groups was not as great as in 1897, indicating that the failure of crops in India, as a whole, was not so great and the area affected by famine not so large as in 1897. The largest increase occurred, of course, in the famine areas, viz, Bundelkhand, the Deccan, Gujarat, Berar, the Central Provinces, Agra Provinces North

Fluctuations  
1900-1904.

and West, and the Punjab. It should also be noted that the prices of "metals" rose to their highest level in that year. Agricultural conditions were, on the whole, favourable throughout India during the next few years, though parts of the country suffered from famine or scarcity. The general price level fell steadily until 1904, when it went down to 106 or about the average of the years 1898 and 1899. Some classes of articles, chiefly "hides and skins" and "building materials" continued to show a steady rise, and some classes showed no remarkable variation, while in some other classes there was an appreciable fall. With a succession of years in which the agricultural conditions were more or less favourable, the prices of foodgrains—cereals and pulses—and oilseeds, all dropped to a level lower than the average of the basic period.

Fluctuations  
1905—1908

84 An era of high prices, however, commenced in 1905, and prices of almost all classes of commodities have been rising since then, practically in all parts of India. In that year, the spring crops in the United Provinces suffered very severely from frost, and drought affected adversely the autumn and spring crops of the following year. The spring crops of 1905-06 in Bombay were almost a failure, resulting in a famine in that presidency. In 1906 and 1907 also, there were disastrous floods in North Bihar and the crops were damaged. Taking India, however, as a whole, the agricultural conditions were not seriously adverse either in 1905 or in 1906. Still these years appeared to have ushered in a new period in the history of Indian price levels, the predominant characteristic of which was the existence of famine prices without famine. The general price level rose from 106 in 1904 to 116 in 1905, 129 in 1906 and 133 in 1907, and it culminated in a rise to 143 in 1908, when there was a famine again in several provinces, notably in Northern India, where the rainfall in 1907 and 1908 was deficient and badly distributed. The largest increase was, as usual, in the areas affected by famine and in agricultural products, *viz.*, cereals, pulses and oilseeds, the prices of which rose to 168, 179, and 145 respectively—points which had not been reached in any previous famines, although more severe in character and more widespread in effect. The price of almost every class of articles, with the exception of tea and coffee and other textiles, stood at a more or less high level.

Fluctuations  
1909—1912.

85 With more favourable agricultural conditions, prices of agricultural products commenced to fall again in 1909, but they have generally moved about in the neighbourhood of the high level of the famine year of 1900, or have been even higher. The prices of most other classes of commodities, notably hides and skins, other articles of food, cotton, other raw and manufactured goods, and building materials have gone on increasing practically continuously and steadily.

High level of prices  
since 1905

86 On the whole, it seems clear that up to 1905, the fluctuations in the prices of foodgrains and pulses depended largely on the agricultural conditions in India, and that whenever these conditions became unfavourable, prices rose very high, but with favourable agricultural conditions prices tended to return to their old level. But since 1905, favourable agricultural conditions have not succeeded in bringing back prices to their old level, and the famine of 1908, which was not so severe in its extent and intensity as the famines of 1897 and 1900, raised the prices of these commodities to a level much higher than had previously been reached. The price of jute, on the other hand, was generally low in years of famine and was highest in 1905—1907, when it rose to 127, 157, and 154 respectively, when prices of almost all classes of articles were rising. The prices of other articles of food, cotton, hides and skins, metals, other raw and manufactured articles, and building materials have all, except in a few years in which there were unimportant falls in some cases, gone on steadily increasing throughout the period under enquiry.

87 The smoothed five-yearly average index numbers, in which the effect of temporary causes is eliminated, show that the general price-level has gone on increasing steadily throughout the whole period of the enquiry, there being an increase of 8 per cent in the quinquennium 1895-99, of 12 per cent in the quinquennium 1900-04, of 31 per cent in the quinquennium 1905-09, and of 36 per cent in the triennium 1910-12. The largest increase has thus occurred during the last eight years. What the smoothed averages show

#### CLASSES OF COMMODITIES THAT HAVE RISEN MOST

88 With the exception of tea and coffee and other textiles, all the other classes of commodities now stand at a level higher than was ever reached before. As regards tea and coffee, prices dropped steadily from 1894, when exchange, for the first time, retraced its course and began to proceed upwards, till 1902 when it fell to 65. Since then, prices have again been rising with occasional falls and now stand at the level of 85. Rise almost general in all commodities

89 The following statement shows the different classes of commodities in the price level of which there has been an increase in the quinquennium 1908-12, arranged in descending order of increase— Classes of commodities in the order of rise of prices.

Hides and Skins	159
Oilseeds and oils	145
Foodgrains—pulses	143
Foodgrains—cereals	142
Building materials	142
Cotton	133
Jute	131
Other articles of food	129
Other raw and manufactured articles	126
Metals	120
Sugars	109

90 The largest increase has occurred in the price of "hides and skins". The price of this class of articles has gone on increasing continuously from 1890, and the only years in which the rise received a check were the years of famine, *viz.*, 1896, 1897, 1900 and 1908, evidently due to a deterioration in the quality of the articles in consequence of the famished character of cattle, and to an increase in the supply owing to increased mortality among cattle, also the result of famine. In the first year, the price fell from a level of 120 to 111, but it rose again to 113 in 1898. In 1900, it fell from a level of 124 to 115, but it rose in 1901 to 118 and to 126 in 1902. In 1908, it fell from a level of 161 to 150, but it rose again to 152 in 1909 and to 164 in 1910, and in 1912, the price-level stood at 172. The price of this class of commodities is governed almost exclusively by the prices prevailing in Hamburg, London, New York and other world markets. Hides and Skins

91 Taking quinquennial averages, the general rise in the price of oilseeds has been higher than that in foodgrains—pulses and cereals, but the variations from year to year have been much smaller and abnormal rises have kept within much smaller limits. Thus, in the famine year of 1897, the average level for oilseeds for the whole of India was 114, while that for pulses and cereals was 159 and 148 respectively. In 1900, oilseeds rose to 122, while pulses and cereals rose to 139 and 134 respectively. Again, in 1908, the level for oilseeds rose to 145, while that for pulses and cereals rose to 179 and 168 respectively. Of all the oilseeds, the fluctuations have been greatest in linseed, the lowest point having been 88 in 1904 and the highest 182 in 1911. The price stood in 1912 at the level of 175. Oilseeds

92 The next two tables show both annual and quinquennial average index numbers for "foodgrains—cereals and pulses". They indicate that the fluctuations have depended, as already mentioned, on the agricultural conditions of the different years and on the total produce of the crops in India. The disparity Foodgrains—Cereals and Pulses.

between price-levels in good and bad years is striking. In both the famine years of 1897 and 1900 the average level rose high, but with more favourable agricultural conditions prices declined, and in 1904 they reached a level lower than that of the basic period. After that year, however, they rose rapidly, and in the famine year of 1908 they were higher than in any previous year. Agricultural conditions have been fairly good during the last four years, and, although prices were going down for a time, they rose again in 1912 and are now at a level much higher than previously, barring those years in which the supplies were unusually low owing to famine. In normal years, the produce of cereals and pulses in India (excluding Burma) is sufficient to meet the requirements of the country and to leave a surplus available for export to other countries. In such years the price is regulated by that in the other exporting countries with which it has to compete. In years of famine, however, the food supplies fall short of the requirements of the country itself and enormous quantities of rice have to be imported from other countries, including Burma, and competition sets in with the other importing countries, and prices rise higher than in the great rice and wheat growing countries. The inferior kinds of foodgrains are not exported in good or imported in bad years in any large quantities, and the prices of these rise in famine years and approach those of rice and wheat owing to an increased demand for them caused by the high prices of wheat and rice. The proportionate rise, therefore, in the price of the inferior grains in years of famine is greater.

*Index Numbers of Rupee Prices of different articles comprised in the groups "Foodgrains—Pulses" and "Foodgrains—Cereals" from 1890 to 1912*

Years	PULSES				CEREALS								GENERAL AVERAGE
	Gram	Urd	Arahar	General average	Rice	Wheat	Barley	Oats	Jowar	Bajra	Maize	Ragi	
1890	95	93	96	97	94	94	94	93	89	94	97	86	93
1891	106	101	101	100	96	102	100	92	100	101	106	96	99
1892	111	107	109	107	107	114	110	118	113	110	105	119	110
1893	101	99	101	101	105	101	104	104	102	102	99	102	103
1894	93	100	93	95	98	89	92	93	96	93	93	97	95
1895	101	108	105	102	91	93	97	100	95	97	99	88	94
1896	118	115	119	114	100	112	123	111	112	114	118	94	109
1897	174	147	167	159	131	149	169	149	166	164	171	131	148
1898	117	111	120	115	108	112	110	118	104	102	97	116	109
1899	106	101	105	102	95	103	104	106	102	105	98	197	100
1900	149	132	144	139	114	134	144	129	171	158	139	141	134
1901	131	125	133	130	113	120	118	115	116	112	117	131	116
1902	114	115	114	116	106	112	115	118	111	107	112	112	109
1903	104	103	111	106	104	103	108	114	97	91	94	89	101
1904	100	99	105	99	99	98	99	108	91	87	88	89	97
1905	115	111	118	115	108	110	114	123	115	116	114	117	112
1906	142	135	144	140	130	122	130	132	137	134	146	152	132
1907	141	138	153	147	145	129	140	130	131	128	145	160	139
1908	187	174	181	179	161	165	180	154	177	168	198	174	168
1909	151	150	147	148	138	153	150	150	148	139	149	164	146
1910	123	129	121	124	122	133	124	137	135	125	119	146	127
1911	116	140	116	122	126	121	122	128	132	124	126	140	126
1912	134	159	133	141	140	134	146	136	153	151	149	156	143



*Quinquennial average Index Numbers of Rupee Prices of the different articles comprised in the groups "Foodgrains—Pulses" and "Foodgrains—Cereals" from 1890 to 1912*

Quinquennium	PULSES			Pulses General average	CEREALS								Cereals General average
	Gram	Urd	Arahar		Rice	Wheat	Barley	Oats	Jowar	Bajra	Maize	Ragi	
1890—94	100	100	100	100	100	100	100	100	100	100	100	100	100
1891—95	101	103	102	101	99	100	101	101	101	101	100	100	100
1892—96	105	106	105	104	100	102	105	105	104	103	103	100	102
1893—97	117	114	117	114	105	109	117	111	114	114	116	102	110
1894—98	121	116	121	117	106	111	118	114	115	114	116	105	111
1895—99	123	116	123	118	105	114	121	117	116	116	117	105	112
1896—00	133	121	131	126	110	122	130	123	131	129	125	116	120
1897—01	135	123	134	129	112	124	129	123	132	128	124	123	121
1898—02	123	117	123	120	107	116	118	117	121	117	113	119	114
1899—03	121	115	121	119	106	114	118	116	119	115	112	114	112
1900—04	120	115	121	118	107	113	117	117	117	111	110	112	111
1901—05	113	111	116	113	106	109	111	116	106	103	105	108	107
1902—06	116	113	118	115	109	109	113	119	110	107	111	112	110
1903—07	120	117	126	121	117	112	118	121	114	111	117	121	116
1904—08	137	131	140	136	129	125	133	129	130	127	138	138	130
1905—09	147	142	149	146	136	136	143	138	142	137	150	153	139
1906—10	149	145	149	148	139	140	145	141	146	139	151	159	142
1907—11	144	146	144	144	138	140	143	140	145	137	147	157	141
1908—12	142	150	140	143	137	141	144	141	150	141	148	156	142

93 Taking quinquennial averages, the rise in the different commodities comprised in the group "cereals" has, in the quinquennium 1908—12, been as follows —

Ragi	156
Jowar	150
Maize	148
Barley	144
Bajra	141
Oats	141
Wheat	141
Rice	137

The rise in the price of wheat has been smaller than the rise in all other articles with the exception of only rice, the acreage under which in the last 5 years was higher than the basic average by 9 per cent while the acreage under wheat during the same period was smaller than the basic average by 8 per cent. The rise in the price of rice has been the lowest. As explained above, owing to the regulating effect of foreign markets, the prices of rice and wheat have fluctuated within much smaller limits than those of the other articles. Thus, the highest points to which rice rose in the famine years of 1897, 1900, and 1908 were 131, 114, and 161 respectively, and in the case of wheat 149, 134, and 165, but the other articles rose to still higher points. Jowar rose to 166, 171, and 177 respectively, bajra to 164, 158, and 168, maize to 171, 139, and 198, ragi to 131, 197 (in 1899), and 174, and barley to 169, 144, and 180, while the lowest levels to which the different articles fell in 1904 were rice (99), wheat (98), jowar (91), bajra (87), maize (88), ragi (89), and barley (99). This well illustrates the fact that the commodities which form staples of trade in the world markets, fluctuate within much smaller limits than those of which the consumption is confined practically within the country.

94 As regards rice, the greatest portion, of what is exported, is grown in lower Burma, a country so happily favoured by nature that bad seasons are generally unknown. A much larger quantity is grown in Bengal and Madras which are also, to some extent, immune from the vicissitudes of the seasons. But there are other tracts which are less fortunately situated, where also the staple food is rice and where monsoon rains are scantier and deficiency means disaster. A failure of monsoon in these parts necessarily creates a demand for rice from Bengal, Madras and Burma,



at prices with which prices in foreign markets do not correspond Indian rice is required in other countries not only for purposes of food supply but also for manufacturing purposes It has thus to compete not only with rice from other countries but also with other substances which are commonly used for the distillation of spirits and the manufacture of starch—maize and potatoes among other things A high level of prices in India, therefore, tends to reduce the demand in the external markets and to keep down prices here As rice is the staple food of nearly five times as many people in India as those who use wheat, the consumption of rice in India is very large, and excluding rice grown in Burma, the supply in the other parts of India frequently proves insufficient to meet the demand, and considerable quantities of Burma rice which would otherwise have been exported to foreign countries are deflected to Indian markets Comparatively small quantities come from other places also, chiefly Siam and Cochin China, but it is the inexhaustible stocks of Burma that tend to keep down prices In such circumstances the influence of world markets is to keep down prices of rice in India

## Wheat

95 The conditions affecting the price of wheat are quite different. The wheat we export has to compete with the wheat grown all over Western Europe and with that of the great wheat exporting countries, the United States, Russia and the Argentine Republic Indian wheat, not being freely taken when harvests and supplies in the other parts of the world are equal to the demand, commands, in foreign countries, prices lower than those ruling for other wheats When the outturn of wheat in India, in bad years, proves insufficient to meet its own demands, it can be imported only from distant countries In famine years, therefore, the rise in the price of wheat is proportionately higher than the rise in the price of rice This also happens on occasions when the supplies in the great wheat-producing countries of the world are largely deficient, and such occasions do not occur infrequently an indifferent harvest in Europe, a failure in South Russia, a contraction of supply from the United States, a failure in Argentina where the harvests appear to be singularly uncertain, a drought in Australia, may, one or another of them, raise the price of wheat to an unusual level in the world markets The influence of world markets on the price of wheat in India is thus greater than in the case of rice.

## Building Materials

96 In the price of building materials, there has been a continued and steady rise throughout India, and this is not surprising in view of the great industrial development and increased prosperity which has resulted in an increase in the demand for new mills and factories and for better housing by the population as a whole, and especially in cities and manufacturing centres and other urban areas

## Cotton and cotton manufactures.

97 The prices of both raw cotton and cotton manufactures fell during the earlier period of the enquiry, but since 1902 there has been an almost continuous rise which has been much greater in raw cotton than in cotton manufactures The average of the former during the last three years was 158, while that of the latter only 131

## Jute and Jute manufactures

98 The next group includes jute and jute manufactures, the prices of both of which have fluctuated very largely during the period under enquiry Prices rose steadily up to 1896 when the crop suffered from insufficient and unseasonable rain There was a large decline in 1897 and 1898 and then prices continued to rise till 1900, but in the next two years they fell again and the average of 1902 was 5 points lower than the average of the basic period Between 1903 and 1907, there was a continuous extension of the area under cultivation, and in the outturn, which attained its maximum in the latter year Nevertheless, as in the case of other commodities, there was a steady increase in the average price of this class of goods In 1908 and 1909 there was a heavy decline, but during the last three years there has been an increase again, and the average level in 1912 was 160, or 5 points higher than the highest level in the past

99 "Other articles of food" includes various kinds of condiments and spices, salt, ghee and milk, and vegetables. The duty on salt has been gradually reduced during the period under investigation. Up to March 1903 it was Rs 2-8 per maund except in the case of Kohat salt for which the duty was Rs 2 per Lahori maund of  $102\frac{1}{8}$  lbs, and of Mandi salt for which the duty was  $7\frac{1}{2}$  annas a maund. In that month it was reduced to Rs 2, Re 1-8 and 6 annas respectively, in March 1905 to Re 1-8, Re 1-8 and  $4\frac{1}{2}$  annas, and in March 1907 to Re 1, Re 1 and 3 annas per maund respectively. In calculating the wholesale price of salt, the duty has been excluded throughout the period. The variations in the price of salt, *ex-duty*, have been as follows —

1890—94	100
1895—99	100
1900—04	100
1905—09	96
1910	91
1911	102
1912	102

100 The variations in the prices of the other articles comprised in this group have been very striking, and they have seldom all moved in the same direction even at the same place. Thus, in Calcutta, while the price of black-pepper rose in 1902 from 141 to 171, the price of turmeric fell from 127 to 78. The index numbers for this group of articles in the different circles depend largely upon the number of articles for which it has been possible to obtain continuous price quotations for the period. On the whole, as shown in the tables, there has been a considerable increase in the price of most of the articles included in this group, the only exception being "salt," as already mentioned, and some kinds of spices such as ginger and betelnuts in which there has been an appreciable fall. The largest increase has occurred in ghee and milk, the prices of which in 1912 were 54 per cent higher than those in the basic period. The prices of spices and condiments, as a class, were 28 per cent higher, and the increase in chulies, which, of all spices, is most largely used, has been 29 per cent in comparison with the basic period. In other articles also, not included under spices and condiments, there has been a fairly general increase.

101 "Other raw and manufactured articles" include a large number of commodities which do not fall under any of the other heads. In most of these commodities there has been a, more or less, appreciable increase. The only commodities, in which there has been an appreciable fall, are dyeing and tanning materials, including indigo, and myrobalans, saltpetre, shellac, and coal and coke.

102 The prices of metals have risen in harmony with those prevailing in the world markets. The largest increase has occurred in tin block, the price of which has now attained a level of 220. There has been an increase of over 40 per cent in the prices of hard spelter and braziers copper, which are by far the most important metal from the point of view of Indian consumption, since most of the domestic utensils of the people are made of copper or brass. The prices of other metals have risen only slightly higher than the level of the basic period.

103 There has been a steady decline in the price of imported sugars, owing to competition in foreign markets and the improved methods of cultivation of sugarcane in Mauritius, Java, and Formosa. In the price of the indigenous articles, however, there has been a comparatively large increase since 1904. The increase has been greatest in "gur," the consumption of which is heaviest.

104 The prices of other textiles gradually fell after the first quinquennium and reached the lowest point (83) in 1901. Since then they have fluctuated up

and down but have not gone above 100 except in 1907 (102) The prices now stand at a level of 98 'Other textiles' include raw silk in Bengal and Madras, and wool in Bombay and Karachi, and woollen piece goods in Madras The price of wool in Bombay has risen to 127 points, but the price of silk in Bengal and Madras has fallen 4 and 34 points respectively Wool in Karachi stands at 100, and woollen piece goods in Madras at 102

#### LOCALITIES IN WHICH THE RISE OF PRICES HAS BEEN GREATEST

Index number of  
commodities  
common to all  
circles

105 The next question for consideration is the determination of the localities in which the rise of prices has been greatest The following tables show the index numbers of the general level of prices in the different circles for the entire period of the enquiry and their smoothed five-yearly averages In calculating these index numbers, only those groups of articles have been included for which quotations of prices are available in all the circles The groups omitted are 'cotton manufactures,' 'jute,' 'other textiles,' 'hides and skins' 'tea and coffee,' and 'metals' It has not been possible to obtain continuous quotations for these articles, for the entire period of the enquiry, in many of the circles and it is not considered advisable to include them in some circles and exclude them from others, as such a course is likely to vitiate comparison Moreover, the prices of these commodities in the interior are always in close harmony with those prevailing at the ports, and the price-levels of the different circles are likely to be affected to the same extent by variations in the price ratios of these commodities in different years

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*Annual and Quinquennial Index numbers of wholesale  
General prices of groups of articles common in all  
circles.*

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*Index numbers of wholesale General prices*

CIRCLES	1890	1891	1892	1893	1894	1895	1896	1897	1898	1899	No of Item
Calcutta	97	98	100	103	102	102	103	118	104	99	1
Pombay	101	97	101	103	98	100	101	108	103	103	2
Karachi	98	99	102	101	100	102	109	121	113	113	3
Madras	98	96	106	104	96	95	99	108	105	99	4
Assam	98	99	99	102	102	104	107	117	112	103	5
Bengal Northern and Eastern	94	98	101	103	104	99	105	123	104	99	6
Southern and Western	97	96	102	103	102	101	104	123	107	100	7
Chota Nagpur	99	97	101	101	102	103	110	128	112	108	8
Behar	97	98	102	102	101	101	108	138	109	100	9
Agra Provinces East	98	103	99	100	100	106	111	134	101	99	10
Bundelkhand	98	102	106	100	94	102	121	157	108	107	11
Agra Provinces North and West including Oudh	101	106	100	97	96	105	118	142	105	104	12
Punjab East	100	103	105	99	93	95	115	131	108	109	13
West	97	102	104	102	95	100	108	125	110	106	14
Sind	98	98	105	100	99	102	110	118	109	110	15
Gujarat	100	98	100	105	97	98	102	124	107	105	16
Konkan											17
Deccan	95	97	106	103	99	99	104	130	110	105	18
Berar	97	96	102	106	99	98	106	129	104	103	19
Central Provinces	96	99	104	101	100	105	113	128	103	103	20
Madras North East	96	99	108	101	96	97	105	123	111	105	21
North	92	94	110	106	98	93	103	128	114	104	22
South	95	98	104	105	98	98	102	113	109	104	23
West	99	97	102	104	98	99	101	117	111	102	24
INDIA	97	99	103	102	99	100	107	124	108	104	

*Quinquennial averages of Index numbers of wholesale*

CIRCLES	1890-94	1891-95	1892-96	1893-97	1894-98	1895-99	1896-00	1897-01	1898-02	No of Item
Calcutta	100	101	102	103	106	105	108	110	107	1
Bombay	100	100	101	102	102	103	106	108	108	2
Karachi	100	101	103	107	109	112	117	120	121	3
Madras	100	99	100	100	101	101	106	109	108	4
Assam	100	101	103	106	108	109	111	112	111	5
Bengal Northern and Eastern	100	101	102	107	107	106	109	112	109	6
Southern and Western	100	101	102	107	107	107	111	114	112	7
Chota Nagpur	100	101	103	109	111	112	116	117	114	8
Behar	100	101	103	110	111	111	114	116	111	9
Agra Province East	100	102	103	110	110	110	113	114	109	10
Bundelkhand	100	101	105	115	116	119	127	128	119	11
Agra Province North and West including Oudh	100	101	103	112	113	115	120	119	113	12
Punjab East	100	99	101	107	108	112	119	119	115	13
West	100	101	102	106	108	110	115	117	114	14
Sind	100	101	103	106	108	110	114	114	113	15
Gujarat	100	100	100	105	106	107	115	119	118	16
Konkan										17
Deccan	100	101	102	107	108	110	117	121	118	18
Berar	100	100	102	108	107	108	116	120	117	19
Central Provinces	100	102	105	109	110	110	116	116	113	20
Madras North East	100	100	101	104	106	108	114	116	114	21
North	100	100	102	106	107	108	115	119	116	22
South	100	101	101	103	104	105	110	113	112	23
West	100	100	101	104	105	106	109	112	109	24
INDIA	100	101	102	106	108	109	113	115	113	

*of groups of articles common in all circles*

No of Item	1900	1901	1902	1903	1904	1905	1906	1907	1908	1909	1910	1911	1912
1	115	112	107	104	105	113	126	131	140	127	125	125	131
2	115	109	108	104	104	107	118	122	126	122	131	131	136
3	129	124	126	120	119	126	134	141	151	144	147	146	156
4	119	113	104	101	100	112	121	120	121	119	132	130	129
5	113	114	110	107	105	112	125	133	135	128	123	122	129
6	113	119	111	106	105	116	136	143	146	136	127	135	145
7	120	120	111	107	106	116	135	142	149	136	131	134	141
8	121	116	111	109	110	117	128	134	152	134	128	131	140
9	116	118	112	105	104	116	135	149	160	144	129	128	133
10	119	118	107	102	104	117	135	142	156	132	126	128	137
11	140	126	114	106	101	119	140	140	176	144	134	130	142
12	129	115	110	105	103	120	139	139	166	138	131	135	141
13	133	115	112	108	104	117	129	133	156	138	131	136	150
14	128	114	112	109	103	112	124	129	150	139	131	134	148
15	121	111	112	110	109	116	121	128	142	138	136	143	158
16	137	123	120	104	105	114	127	130	147	133	129	129	142
17													
18	137	124	114	106	105	114	132	134	146	139	138	139	149
19	137	126	117	113	112	115	130	134	148	139	141	143	150
20	131	117	113	106	102	113	125	132	153	137	130	134	142
21	125	118	110	103	102	115	129	134	142	139	134	135	143
22	126	122	113	100	99	115	127	129	137	138	140	136	143
23	121	118	108	105	105	118	128	133	136	139	141	145	153
24	115	114	104	103	107	116	125	130	133	132	132	136	138
T	124	117	111	106	105	115	129	133	145	135	132	134	142

*General prices of groups of articles common in all circles*

No of Item	1899 03	1900 01	1901 05	1902 06	1903 07	1904 08	1905 09	1906 10	1907 11	1908 12
1	107	109	108	111	116	123	127	130	130	130
2	108	108	106	108	111	115	119	124	126	129
3	122	124	123	125	128	134	139	143	146	149
4	107	107	106	108	111	115	119	123	124	126
5	110	110	110	112	116	122	127	129	128	127
6	110	111	111	115	121	129	135	138	137	138
7	112	113	112	115	121	130	136	139	138	138
8	113	113	113	115	120	128	133	135	136	137
9	110	111	111	114	122	133	141	143	142	139
10	109	110	110	113	120	131	136	138	137	136
11	119	117	113	116	121	135	144	147	145	145
12	113	112	111	115	121	133	140	143	142	142
13	115	114	111	114	118	128	135	137	139	142
14	114	113	110	112	115	124	131	135	137	140
15	113	113	112	114	117	123	129	133	137	143
16	118	118	113	114	116	125	130	133	134	136
17										
18	117	117	113	114	118	126	133	138	139	142
19	119	121	117	117	121	128	133	138	141	144
20	114	114	110	112	116	125	132	135	137	139
21	112	112	110	112	117	124	132	136	137	139
22	113	112	110	111	114	121	129	134	136	139
23	111	111	111	113	118	124	131	135	139	143
24	108	109	109	111	116	122	127	130	133	134
T	112	113	111	113	118	126	132	135	136	138

Extent of the rise in  
different circles

106 The price levels of the different circles have fluctuated largely from year to year, but the fluctuations have been different in different circles. In famine years, the fluctuations were violent and the price levels rose high in most parts of India, but the extent of the rise was not uniform, being greatest in the circles in which, owing to the failure of crops, the shortage of the local supplies in food-grains and other raw materials was largest. The famine of 1908 extended only over Northern India, but the general price level was affected in almost every circle to a greater or smaller extent. In 1911, the seasons were again bad in Gujarat, in the Western districts of the United Provinces, in some parts of the Punjab, and in Sind and in all the circles comprising these parts there was a substantial increase in the general price level but as the prevailing distress was not very acute, the rise in most of the other circles was comparatively small. The present price level of the circles, which were affected in 1911 and 1912, shows a comparatively large increase but it is probable that with better seasons there will be a fall in the near future. The present price level in the different circles is not, it seems, a reliable guide for determining the extent to which prices have risen in different parts of India. Five-yearly smoothed averages would eliminate the effects of these purely temporary influences and would thus be a better means of gauging the extent to which prices have risen in the different circles. The following figures show the extent of the rise in the general price-level in the several circles in the quinquennium 1908-12, arranged in descending order —

*Class I* —Increase ranging from 40 to 49 per cent —

Karachi	49
Bundelkhand	45
Benar	44
Sind	43
Madras South	43
Agra Provinces North and West	42
Punjab East	42
Deccan	42
Punjab West	40

*Class II* —Increase ranging from 35 to 39 per cent —

Behar	39
Central Provinces	39
Madras North-East	39
Madras North	39
Bengal Northern and Eastern	38
Bengal Southern and Western	38
Chota Nagpur	37
Agra Provinces East	36
Gujarat	36

*Class III* —Increase below 35 per cent —

Madras West	34
Calcutta	30
Bombay	29
Assam	27
Madras	26
AVERAGE FOR INDIA	38

107 It has not been possible to collect continuous and reliable statistics of wholesale prices of any number of commodities in the Konkan. For this circle, therefore, no statistics of wholesale prices nor any index numbers of such prices have been published. It would, however, as is evident from the index numbers of retail prices, be grouped in class III above.

108 Thus, in 9 circles, the price level has risen 40 per cent or more over the basic period, 35 to 39 per cent in 9 circles, and 26 to 34 per cent in 5 circles only. The increase has been largest in Karachi, Bundelkhand, Berar, Sind, Madras South, Agra Provinces North and West, Punjab East, Deccan, and Punjab West, in most of these circles famine conditions prevailed in both 1908 and 1911-1912 in a more or less acute form and raised the price levels to an exceptionally high level. In Bundelkhand, the price level has been throughout very high from 1905 and was the highest (176) of all circles in the famine year of 1908. In the next three years there was a decline, but the scarcity of 1912 raised the level again, though not to the extent as in Sind and the Punjab.

109 It has already been pointed out that since 1905 there has been a specially large increase in prices in all circles. Taking the average of the index numbers for the eight years 1905 to 1912, the rise has been above 30 per cent in the circles mentioned below. It will be seen that the circles contained in this list are the same as shown in classes I and II, the only difference being that the order has been changed in some cases.

Karachi	143
Bundelkhand	141
Agra Provinces North and West	139
Berar	138
Behar	137
Madras South	137
Bengal Northern and Eastern	136
Bengal Southern and Western	136
Punjab East	136
Deccan	136
Sind	135
Agra Provinces East	134
Madras North-East	134
Chota Nagpur	133
Punjab West	133
Central Provinces	133
Madras North	133
Gujarat	131

110 The next three tables contain the index numbers, by circles, of food-grains—cereals and pulses—and oilseeds, etc., which are by far the most important staples of trade and consumption in all parts of India. These tables show that in the case of foodgrains—cereals, the rise during 1905 to 1912 has been above 30 per cent in the circles mentioned above, for pulses, about 40 per cent except in Karachi, Punjab West, Deccan, Madras North-East, Madras North and Madras South and for oilseeds also, about 40 per cent, except in Bengal Southern and Western, Chota Nagpur, Behar, Sind, Gujarat, Madras North-East, and Madras North. The comparatively small rise in the price of pulses in Karachi has been more than made good by the large rise under other articles of food and building materials, in Punjab West, by the rise under other articles of food, cotton and other raw and manufactured articles, and in the Deccan by the rise under cotton, in Madras South, the high rise in the prices of building materials has compensated for the comparatively small rise in pulses, and in Madras North-East and Madras North, the small rise in the prices of foodgrains—pulses and oilseeds has been counterbalanced by a comparatively large rise under cereals and also cotton in the latter circle. In Bengal Southern and Western, Chota Nagpur and Behar the rise under foodgrains and building materials has been sufficient to make up for the deficiency under oilseeds, and in Sind and Gujarat there has been a large rise under cotton and building materials.



111 In Calcutta and Madras West, there has also been a rise of over 30 per cent under cereals and about 40 per cent. under oilseeds as in the cases mentioned above. But in Calcutta, the comparatively small rise under sugar, other articles of food and other raw and manufactured articles, has brought down the general average below 130. In Madras West, the low averages of sugar, cotton, pulses and other articles of food have not allowed the general average for the eight years to go beyond 130. In the cities of Bombay and Madras and in Assam, the rise under most of the classes is comparatively low and, as in the case of the quinquennium 1905—12, the rise in prices in these three circles has been the lowest for the period 1908—12.

*Average Index numbers of wholesale prices of Foodgrains—Cereals and Pulses—and Oilseeds in the different Circles*

CIRCLES	FOODGRAINS— CEREALS			FOODGRAINS— PULSES			OILSEEDS, OILS, etc		
	1895 to 1899	1900 to 1904	1905 to 1912	1895 to 1899	1900 to 1904	1905 to 1912	1895 to 1899	1900 to 1904	1905 to 1912
Calcutta	110	108	131	113	112	138	104	109	139
Bombay	108	113	125	112	122	134	103	107	133
Karachi	115	116	137	119	122	129	110	115	146
Madras	97	106	128	110	111	133	103	109	134
Assam	116	108	129	109	107	125	109	114	140
Bengal Northern and Eastern	108	106	140	109	115	145	105	113	141
„ Southern and Western	108	108	137	113	118	146	102	108	135
Chota Nagpur	113	111	135	122	118	142	117	109	133
Behar	117	109	142	116	110	144	104	105	127
Agra Provinces East	111	103	132	126	117	142	103	108	146
Bundelkhand	121	115	142	134	119	150	102	115	145
Agra Provinces North and West (including Oudh)	116	106	137	137	120	156	101	107	143
Punjab East	119	112	139	128	126	142	104	107	145
„ West	114	112	132	121	119	131	109	108	140
Sind	112	108	139	129	127	140	108	109	132
Gujarat	112	116	138	121	143	139	103	106	133
Deccan	119	123	139	117	127	135	108	119	148
Berar	121	133	140	126	140	140	103	110	140
Central Provinces	123	118	138	124	122	140	106	115	150
Madras North East	110	110	144	114	111	135	105	102	130
„ North	107	114	144	108	109	127	106	104	131
„ South	98	106	139	103	105	130	112	112	139
„ West	105	111	136	107	106	126	102	107	142
INDIA	112	111	137	118	118	139	106	110	139

112 The lowest increase in the general price-level of all circles except the ports has occurred in Assam which is practically immune from famine. Prices, of course, rose in the famines of 1897 and 1908, but they have always shown a tendency to return to their old level as soon as the acuteness of the distress in the areas affected had disappeared. Thus, in 1897, the prices of cereals and pulses rose to a level 37 and 33 per cent higher than that of the basic period, but by the middle of 1899 they went down almost to the old level. The famine of 1900 raised the levels again to some extent, but by 1904 they were considerably below the old level. Since then, as in other circles, there was a steady increase, and in 1908 the prices were 55 and 48 per cent higher than in the basic period. After the famine, however, prices fell and notwithstanding an increase, in sympathy with the general rise all over India in 1912, the prices of cereals and pulses, in that year were only 24 and 19 per cent higher than in the basic period. The area under oilseeds in Assam is comparatively of little importance and the fluctuations in their prices have generally harmonised with the fluctuations in the prices prevailing in Bengal from which the supplies are usually obtained. The average of the last quinquennium is about 43 per cent higher than that of the basic period. The prices of building materials have shown a steady increase as in most parts of India. In other articles of food and other raw materials, also, there has been an increase but of a comparatively small extent. It should also be noted that the actual average prices of food stuffs in Assam during the basic period was generally higher than the corresponding prices in the circle nearest to it, namely, Bengal Northern and Eastern, as the following figures clearly show. If, therefore, in subsequent years there were an equal increase in the prices of these food stuffs in Assam as compared with Bengal Northern and Eastern, the proportionate rise in the price ratios in the former would be much smaller than that in the price ratios of the latter. Moreover the opening of the Assam Bengal Railway has facilitated transport and the reduction in transportation charges has acted against a rise in prices.

*Comparative statement of actual average prices of food stuffs in Assam and Bengal Northern and Eastern Circles during the basic period 1890-94*

Articles	Average actual price per maund						Proportion of first to second
	Assam			Bengal Northern and Eastern			
	R	A	P	R	A	P	
Paddy	1	10	11	1	8	7	112
Rice	2	15	6	2	13	5	105
Gram	3	4	11	2	5	6	143
Mung	3	13	11	3	7	1	112
Dal, Khesari	3	4	5	2	8	1	131
Dal, Musur	4	0	10	3	12	2	108
Sugar	12	3	2	9	8	7	128
Gur	5	5	8	4	5	7	123
Betelnut	8	0	7	7	6	2	109
Chillies	10	9	7	7	7	1	142
Glu	35	14	3	33	5	4	108
Mustard	3	11	1	3	9	5	103
Oil, cocoanut	14	15	1	13	9	8	110
„ mustard	14	2	0	12	6	0	114

113 The rise in the price levels at the ports also has been comparatively small, since they were generally higher during the basic period, the increase during famine years was also comparatively small because owing to their favourable position the ports always get the advantage of the cheapest markets.

## SUMMARY

The extent of the rise

114 To sum up There has been a general rise in prices throughout India which has been especially marked during the last eight years, *i e*, since 1905. Taking quinquennial periods, the index numbers for all India showed an increase in rupee prices of 8 per cent in the quinquennium 1895-99, 12 per cent in the quinquennium 1900-04, 31 per cent in the quinquennium 1905-09, 32 per cent in 1910, 34 per cent in 1911 and 41 per cent in 1912 in comparison with the basic period 1890-94, or expressed in gold prices, a rise of 5 per cent in 1895-99, 16 per cent in 1900-04, 35 per cent in 1905-09, 37 per cent in 1910, 39 per cent in 1911 and 47 per cent in 1912

Groups of commodities in which the rise has been specially marked

115 The rise has been especially marked in the case of hides and skins, foodgrains—pulses and cereals, building materials, and oilseeds, all of which have risen 40 per cent or more above the level of the basic period Cotton and jute have risen about 33 and 31 per cent, respectively, while other articles of food, metals, and other raw and manufactured articles have risen about 25 per cent In country sugar, and especially in *gur*, there has been a moderate increase, but on the other hand, there has been an appreciable decrease in the prices of tea and coffee, imported sugar, dyeing and tanning materials especially indigo, coal, and shellac, as also a slight fall in the prices of other textiles

Localities in which prices have risen most

116 The extent of the increase in prices in the different areas has not been the same The rise has been greatest in areas which have suffered from famine more frequently and severely than in those where famine has been less frequent and less acute, *e g*, in Bundelkhand, Berar, Sind, Agra Provinces North and West, Punjab East, Punjab West, Deccan and Madras South On the other hand, the rise has been comparatively small in Assam which is practically free from famine The rise at the ports except Karachi has been less than in most of the upland circles, but in comparing the ports with the other circles it should be borne in mind that at the ports prices had been generally higher than in the upland circles in the earlier years and an equal rise in prices would result in a lower percentage of rise at the ports moreover owing to their advantageous position, the ports obtain their supplies from the cheapest markets and consequently the prices there do not fluctuate within such wide limits as those in upland circles The rise in the different circles has been approximately as follows during the last quinquennium

*Class I*—Increase ranging from 40 per cent and over —

Karachi	49
Bundelkhand	45
Berar	44
Sind	43
Madras South	43
Agra Provinces North and West	42
Punjab East	42
Deccan	42
Punjab West	40

*Class II*—Increase ranging from 35 to 39 per cent —

Behar	39
Central Provinces	39
Madras North and East	39
Madras North	39
Bengal Northern and Eastern	38
Bengal Southern and Western	38
Chota Nagpur	37
Gujarat	36
Agra Provinces East	35

*Class III* —Increase below 35 per cent —

Madras West	34
Calcutta	30
Bombay	29
Assam	27
Madras	26
Average of all India	38

117 The disparity between the price-levels in good and bad years is striking. With the linking up, however, of markets by railways, the variations between circle and circle, and district and district, are very much less than formerly and are greatest in places most remote from the ports and in areas which are more or less liable to famine. Whenever, therefore, there has been a famine in any part of India, the price-level of all circles have risen more or less the rise being, of course, greatest in the areas actually affected by famine.

## CHAPTER V.

## Causes of the Rise of Prices

Variations in price-level—periodical and secular

118 It has been shown in the last chapter that there have been two classes of variations in the general price-level in India, one periodical or occasional and the other secular or progressive that the oscillations of the former have been frequently very violent, and that, on the whole, there has been a progressive rise in the general price-level during the period under enquiry, the rise having been greatest since the year 1905

Rise in prices general throughout the world

119 Recent investigations made in many other countries, *viz*, Great Britain, Germany, France, Belgium, Italy, Canada, the United States, New Zealand and Australia, show that the rise has been almost, if not quite, general throughout the world. Consular reports and German and French newspapers teem with complaints of the effects of high prices. A writer in Hamburg has recently said that Germany has long ceased to be an inexpensive country. The American Consul at Havre says that "the cost of living in France has considerably increased in the past ten years and is the subject of constant comment and continual complaint on the part of those whose salaries remain unchanged. Moreover, there is every indication that the augmentation will continue, and that ten years hence we shall be paying still more for the necessaries of life than to-day." Town populations of Austria, more especially of Vienna, have been agitating for some time past for a reduction in the food tariff. The Spanish Government has yielded to the extent of passing a bill for gradual abolition of octroi in the hope that it will reduce the cost of living in towns. In the United States, the social upheaval caused by high prices is perhaps responsible for the onslaught on the Trusts and on the entire protective system. In Japan the recent high prices have been engaging the anxious attention of the Government of the country, and in 1911 the Government, under pressure, lowered the tariff temporarily. A writer at Odessa (Russia) says that 'during the past ten years there has been a gradual increase in the cost of almost all articles that enter into living requirements.

Nor would it seem that this increase has been affected by the results of the various crops from year to year.

Comparison of price-level of India with that of other countries

120 It is, therefore, necessary, when investigating into the causes of the rise in India, that the rise of the price-level in other countries should be fully appreciated. The following table compares the rise of the general price level in gold in India with that in other countries —

*Index Numbers of Wholesale Prices in India and Foreign Countries 1890—1912.*  
(Average of 1890—94=100)

Years	UNITED KINGDOM				Belgium (Wool)	Germany (Schmitz and Hooker)	Italy (Imports and Exports)	France (various)	Canada (Department of Labor)	United States of America (Bureau of Labor)	New Zealand (Melbourn)	Australia (Melbourn whole sale price)	India
	Consolidated	Food of Trade	Sugar and	Average									
1890	105	102	105	104	101	106	107	104	106	106	103	117	113
1891	101	106	105	105	103	106	101	104	104	105	104	104	106
1892	98	100	99	99	102	100	100	98	99	100	101	102	100
1893	99	99	99	99	95	97	99	101	98	99	97	94	96
1894	95	93	92	93	99	91	93	93	93	90	95	83	85
1895	90	90	90	90	98	88	93	88	95	88	90	84	89
1896	92	87	89	89	97	87	91	85	89	85	93	102	99
1897	90	89	90	90	100	90	90	87	88	84	94	102	120
1898	89	92	93	91	101	93	93	91	92	88	94	99	109
1899	92	91	99	94	102	99	101	99	96	95	95	89	103
1900	102	99	109	103	109	106	112	106	104	104	98	99	126
1901	96	95	102	98	110	102	103	100	103	102	95	108	120
1902	92	95	101	96	112	99	99	98	105	106	97	116	115
1903	96	95	101	97	113	105	101	100	106	107	97	116	111
1904	101	97	102	100	111	106	104	99	107	106	92	98	110
1905	100	96	105	100	114	109	103	100	109	109	95	101	120
1906	110	93	112	107	121	118	109	110	115	115	98	105	134
1907	119	104	117	113	122	127	114	116	121	122	104	113	138
1908	105	101	106	104	127	115	110	105	116	115	101	123	147
1909	104	102	108	105	124	119	111	107	116	119	98	110	138
1910	111	107	114	110	127	123	116	112	120	124	100	111	137
1911	117	108	117	114	127	134	120	120	122	121	104	111	139
1912	121		123						129	128		130	147

121 These figures show that in India from 1890 to 1894 the general level of prices measured in gold declined steadily with the prices in other countries of the world in spite of the unfavourable agricultural conditions which prevailed in some parts of India in 1891. In 1896-97 the widespread famine in India caused a considerable rise in the general price-level here. In Australia also, there was a drought, and it was followed by a rise there larger than in India, but in the other parts of the world, prices continued in their downward course. With the appearance of normal conditions in India and Australia, prices fell in both countries, but in the other countries, the tide was turned, and for the first time, after a long period of continued depression, prices began to take an upward course. In 1900, acute famine prevailed again over a considerable part of India and, as a result, there was a large increase in prices. There was a simultaneous rise throughout the world, and the general price-level in that year stood above the average of the basic period in practically every part of the world, the only exception being New Zealand and Australia, where the rise was not sufficiently large to raise the level above that of the early nineties. In the next four years prices continued to decline in India, until in 1904 the general level was only 10 per cent above that of the basic period. In Australia, there was a severe drought in 1901-02, and as a result, prices rose until 1903, after which there was a heavy decline in 1904. In Belgium, prices have risen steadily since 1897, while in New Zealand they have oscillated up and down throughout the period within comparatively narrow limits. In other countries, there was a decline in 1901, and in some of them in 1902 also, but in 1903, prices began to rise again. In 1905, prices in India and Australia also took an upward course and since then the general price-level continued to rise in all parts of the world until 1907. In that year there was a drought again in India and Australia, and prices rose very high in these two countries in 1908, but in all other parts of the world there was a more or less heavy fall. On the disappearance of the effect of the drought, prices declined in India and Australia in 1909, and this lower level was maintained till 1911, but in the other parts of the world prices continued in their upward course. In 1912, there has again been a sharp rise not only in India and Australia, but also in most other countries of the world.

122 The somewhat violent fluctuations shown by the index numbers of individual years, due undoubtedly to causes, more or less temporary and local, vitiate comparison between particular years. A consideration of the average level of the index numbers over periods of several years would indicate more clearly the net result of the figures contained in the foregoing table. The averages of the index numbers during each quinquennial period have been computed for all the countries and are exhibited in the table on the next page. In these quinquennial averages, temporary oscillations, and, with them, the effect of more or less temporary causes, have been largely eliminated, and the results indicated by them give a clearer idea of the general trend of prices in different parts of the world. These quinquennial averages indicate that there has been a steady and continuous increase in the price-level since 1894-98 and that the rise has been greatest in India and smallest in New Zealand, while the rise in England has been smaller than that in other countries except New Zealand.

Necessity of  
comparing averages  
of index numbers  
for a series of years.

*Quinquennial averages of Index Numbers of Wholesale Prices in India and Foreign Countries*

Quinquennium	UNITED KINGDOM				Belgium (Waxweiler)	Germany (Schmitz and Hooker)	Italy (Imports and Exports)	France (various)	Canada (Department of Labour)	United States of America (Bureau of Labor)	New Zealand (Mail wreath)	Australia (Melbourne wholesale prices)	India
	Economist.	Board of Trade	Sauerbeck	Average									
1890—94	100	100	100	100	100	100	100	100	100	100	100	100	100
1891—95	97	98	97	97	100	96	97	97	98	96	97	95	95
1892—96	95	94	94	94	98	93	95	93	95	92	95	93	94
1893—97	93	92	92	92	98	91	93	91	93	89	94	93	98
1894—98	91	90	91	90	99	90	92	89	91	87	93	94	100
1895—99	91	90	92	91	100	92	94	90	92	88	93	95	105
1896—00	93	92	96	94	102	95	97	94	94	91	95	98	112
1897—01	94	93	99	95	104	98	100	97	97	95	95	99	117
1898—02	94	94	100	96	107	100	102	99	100	99	96	102	116
1899—03	96	95	102	98	109	102	103	101	103	103	96	106	116
1900—04	97	96	103	99	112	104	104	101	105	105	96	107	118
1901—05	97	96	102	98	113	104	102	95	106	106	95	108	115
1902—06	100	96	104	100	115	107	103	101	108	109	96	107	118
1903—07	105	98	107	103	117	113	106	105	112	112	97	107	123
1904—08	107	99	108	105	120	115	108	106	114	113	98	108	130
1905—09	108	100	110	106	122	118	109	108	115	116	99	110	135
1906—10	110	103	111	108	123	120	112	110	118	119	100	112	139
1907—11	111	104	112	109	125	124	114	112	119	120	101	113	140
1908—12	112		113						121	121		117	142

123 The latest quinquennium for which index numbers have been collected for all countries is 1907—11. If the average index numbers of this quinquennium be compared with the averages of the basic period, the rises in the different countries may be arranged as follows, in descending order. As explained above, the lowest level of prices in all the countries with the exception of India was reached in the quinquennium 1894—98. Comparing the averages of the latest quinquennium (1907—11) with those of this quinquennium also, the increases in the different countries are as shown below —

	Compared with 1890—94	Compared with 1894—98
India	40	40
Belgium	25	26
Germany	24	38
United States of America	20	38
Canada	19	31
Italy	14	24
Australia	13	20
France	12	26
United Kingdom	9	21
New Zealand	1	9

Limitations of  
comparison between  
index numbers of  
different countries

124 In using the index numbers of various countries, as indicating the rise in their general price-level, it should be noted that, even though the index numbers have been reduced to a common standard period, percentage comparisons are somewhat misleading. Percentages may be the same when the actual changes in price are different or the actual change may be the same when the percentage change varies. It is well-known that when the price of any commodity sold in Calcutta and London changes, it tends to change in both, not by a percentage of price but by a definite amount. If the commodity is exported from Calcutta to London its rise or fall will be larger as a percentage in Calcutta than in London, because the change in price will be calculated on a price less than the English price by the cost of transport. The agricultural products and raw materials, which form the bulk of the commodities, on the price of which the Indian index numbers have been calculated,

are always exported to most of the other countries mentioned above and their prices are generally smaller in India. An equal increase in the actual prices in England and India would, therefore, mean a really larger percentage of increase in India than in England.

125 But even if sufficient allowance be made for this consideration, there is no doubt that the rise in the price-level of the different countries would be different. Apart from the general factors which have influenced the price-levels of all countries, there must, therefore, have been local influences at work in the different countries. Of all the countries mentioned, the rise has been greatest in India, and there has been a considerable rise in America and Germany also, since the quinquennium 1894—98. The rise in the latter countries might be accounted for by the heavy protective tariffs introduced into them and by the influence of industrial and commercial combinations which have, of late, grown very rapidly in the United States. These factors have been practically non-existent in India, and some other special influences must, therefore, have been at work here to have raised the price-level to a height considerably above that to which it could have been raised by the influences that have caused a general rise throughout the world.

126 The causes of the rise of prices in India should, therefore, be divided into two classes, *viz*, (1) causes peculiar to India and (2) causes not confined to India alone. There are other causes which must have influenced prices in other countries, but not in India to any considerable extent. It is extremely difficult to keep apart the first two classes of causes, inasmuch as, factors peculiar to India and factors operating in other countries as well as in India interact on one another. Isolation of phenomena is, it is well-known, the greatest difficulty in dealing with price changes. Moreover, India has during the last fourteen years changed from a silver to a gold standard of value, which is a movement similar to that of "bringing the railway gauge on the side branches of the world's railways into unison with the main lines, and promoting a facility of exchange."

Causes of the rise of prices divided into (1) causes peculiar to India and (2) world factors



127 The principal causes peculiar to India which might have affected the general price-level, may be classified under the following broad heads —

Possible causes peculiar to India—enumerated

- (1) A shortage in the supply of agricultural products and raw materials
- (2) An increase in the demand for these commodities,
- (3) An increase in the cost of production,
- (4) The development of railways and other communications in India and the lowering of the direct and indirect costs of transport in India itself and between Indian ports and foreign countries,
- (5) An improvement in the general monetary and banking facilities and an increase in credit,
- (6) An increase in the volume of the circulating medium

128 Many other causes are alleged, some of which might have contributed to the rise in prices, but they would fall under one or other of the heads mentioned above and should be treated as contributory causes. Thus the rise in the standard of living, the changes in the growth and movement of the population and increase in the exports of agricultural produce and raw materials affect the demand for commodities, while a deficiency and unseasonableness of the rainfall, a decrease in the fertility of the land and the substitution of commercial crops, such as jute in the place of rice and cotton in the place of wheat, could raise prices only if their effect was a shortage of supply. The import of additional capital into India might cause an increased demand for labour and raw material and might also affect causes (5) and (6). All these will be discussed 'when dealing' with the several heads mentioned above.



Causes affecting  
the whole commer-  
cial world—or  
world factors—  
enumerated

129 The principal causes affecting the whole commercial world may be divided into —

- (1) A shortage in the supply of, or an increase in the demand for, staple commodities in the world's markets
- (2) The increased gold supply from the world's mines
- (3) The development of credit
- (4) Destructive wars and increase of the standing army and navy in most of the prosperous countries, diverting capital and labour to unproductive purposes and causing an increased demand for many classes of commodities

130 Here also there might be other causes, but they would come under one or other of the heads mentioned above. Thus, the immigration of enormous masses of manual labourers from Europe into the countries of North and South America, which means a large transfer of working population from food production in Europe, on a low standard of food consumption, to industrial employment in other countries, upon a far higher standard of food consumption, would create an increased demand for commodities. The sinking of a large and growing proportion of labour and capital, in new and backward countries of the world, means the application of a vast amount of productive energy to a kind of work the fruitfulness of which takes a long period of time to mature. If out of the hundreds of millions of fresh capital made available by the rapid growth of credit, considerable amounts, which might have gone to promote agriculture and manufacture, have gone, year after year, into laying the deep foundations for a future career of agriculture and manufacture in backward lands, the result must be a restriction of immediate productivity, as compared with the growth of capital having no inconsiderable influence in raising prices.

131 Then, there is a great and growing waste involved in the struggle to market the goods that are produced. In every country publishing reliable censuses of occupations, we perceive a rapid increase in the proportion of persons engaged in trying to sell goods. Nor can we ignore the innumerable signs of an expenditure upon luxurious goods and services absorbing an increasing share of the general income in the richest countries. Another contemporary movement is the influence of industrial and commercial combinations upon the volume of production. The rapid rise of Trusts, Cartels, Conferences, Pools and other forms of trade combination or agreement clearly belong to the epoch of rising prices and must be considered contributory to it. The normal result of the formation of combines is to restrict the rate of production, making it lower than it would have been under an era of free competition. Protective duties and cold-storage plants, which result in preventing extreme fluctuations of prices of certain commodities with the seasons, but tend to advance prices by enabling wholesale dealers to sell at the best possible advantage, do not, however, play any important part in the causes of the rise of prices in India, as they do in the United States and some other countries.

## CHAPTER VI.

## Causes of the rise of Prices peculiar to India.

## SHORTAGE IN THE SUPPLY

132 One of the principal causes which have led to the rise in prices in India, is a shortage of supply, particularly in the case of foodgrains. By shortage of supply is meant—not that the total production of the country has actually contracted as compared with the basic period, but that production has not kept pace with the growth of internal consumption and external demand. This shortage of supply may have resulted from one or more of the following factors —

- (1) Growth of cultivation not keeping pace with the growth of population,
- (2) Unseasonable rainfall
- (3) Substitution of non-food crops for food crops.
- (4) Inferiority of new lands taken up for cultivation,
- (5) Inefficient tillage on account of dearth and scarcity of plough cattle and labour, and
- (6) Decreased productive power of the soil

## GROWTH OF CULTIVATION NOT COMMENSURATE WITH GROWTH OF POPULATION

133 The following table shows the total acreage under cultivation, in the different circles and their index numbers —

*Area under Cultivation*

	* TOTAL AREA UNDER CULTIVATION (IN THOUSANDS OF ACRES)				INDEX NUMBERS (AVERAGE OF 1890 91—1894 95=100)							
	Average of 1890 91 to 1894 95	Average of 1895 96 to 1899 00	Average of 1900 01 to 1904 05	Average of 1905 06 to 1909 10	1910 11	1911 12	Average of 1890 91 to 1894 95	Average of 1895 96 to 1899 00	Average of 1900 01 to 1904 05	Average of 1905 06 to 1909 10	1910 11	1911 12
Assam	2,084	3,526	5,118	5,345	5,733	5,839	100	169	246	256	275	280
Bengal Northern and Eastern	10,261	16,516	16,185	16,330	16,087	16,700	100	102	100	100	99	101
„ Southern and Western	17,226	17,142	17,413	17,629	17,410	17,226	100	100	101	102	101	100
Chota Nagpur	6,832	7,816	5,055	6,033	6,825	7,556	100	114	87	88	100	111
Behar	22,527	22,201	21,308	20,720	21,635	21,481	100	99	95	92	96	95
Agra Provinces East	9,209	8,774	9,375	9,240	9,703	9,617	100	95	102	100	105	104
Bundelkhand	3,051	2,571	2,902	2,703	3,322	3,281	100	84	98	92	109	108
Agra Province North and West	30,052	28,705	30,030	30,201	31,512	31,187	100	76	103	100	105	104
Punjab East	21,109	10,469	22,774	23,992	24,180	22,107	100	92	108	114	115	105
„ West	6,061	6,211	6,743	7,017	7,122	6,730	100	93	101	105	107	101
Sind	3,301	3,305	3,790	4,346	4,515	3,203	100	100	115	132	137	90
Gujarat	3,683	2,902	2,906	3,368	3,474	2,318	100	80	79	91	94	63
Konkan	1,270	1,211	1,214	1,612	1,717	1,226	100	95	98	119	135	97
Deccan	20,510	18,528	10,280	19,827	20,000	18,520	100	90	94	97	102	90
Borar	6,741	0,367	7,170	7,377	7,217	7,070	100	94	106	109	107	105
Central Provinces	16,020	16,190	17,872	19,238	20,720	21,259	100	96	106	114	122	126
Madras North East	5,402	5,584	6,668	9,574	11,872	11,847	100	103	123	177	220	219
„ North	7,031	7,220	7,768	7,813	7,752	7,341	100	103	110	111	110	104
„ South	12,143	12,406	13,228	15,102	16,231	15,856	100	102	109	124	134	131
„ West	1,803	2,035	2,095	2,388	2,480	2,477	100	109	112	128	134	133
TOTAL INDIA EXCLUDING BURMA	213,888	208,808	220,894	229,844	240,434	232,657	100	98	103	107	112	109
TOTAL INDIA, AS ESTIMATED							100	98	103	105	108	106

Discrepancies in  
acreage returns

134 Statistics of the acreage under cultivation are more or less defective in most of the provinces, as explained below. The figures shown in the above table should, therefore, be taken with many limitations and the net result indicated by them corrected accordingly. It is not possible to prepare from independent sources new estimates of the actual extension of cultivation with any pretence to accuracy, I have, however, applied rough corrections to the existing figures and deduced from them the extent of the growth of cultivation in each circle. Although these estimates are rough, they are probably sufficiently correct for purposes of comparison. Details of these estimates are given below.

Extension of  
cultivation—  
estimates of

135 In Assam, the index numbers indicate an extension of cultivation by 180 per cent. This high percentage is due to the fact that, in the basic period, large areas which had been under cultivation for a long time past were not included in the returns. Comparing the figures for years for which complete statistics are available, the extension is not likely to have exceeded 15 per cent. The figures for the two circles in Bengal proper do not show any extension, but the data collected for the recent survey and settlement operations and for the record of rights show that the figures for the earlier years were more inaccurate guesses than the present ones. If allowance be made for this, there would appear to have been an extension of about 5 per cent in these two circles. The case of Chota Nagpur is peculiar, for some of the districts included in this circle, the estimates of area were reduced or raised arbitrarily on more than one occasion, the figures of some surveyed tracts show, however, an extension of cultivation of 15 per cent since 1890 and this has been taken as the estimate for the entire circle. The figures for Behar show an actual contraction in the area, but this is contrary to the views of all who can speak with any authority on this part of the country. The low index numbers are the result of unduly high estimates of the area in the earlier years. The area was practically fully cultivated long ago and the extension has been put down at 5 per cent. The figures for the United Provinces of Agra and Oudh are more reliable than those of Assam, Bengal, and Behar and the index numbers do not show any appreciable extension of the area under cultivation in Agra Provinces East and Bundelkhand. Agra Provinces North and West (including Oudh), however, shows a small extension of about 4 per cent. The extension of area in Punjab East has been due to irrigation and may be set down at 15 per cent, that in Punjab West being much smaller, viz., 6 per cent. In Sind, however, irrigation has brought comparatively large areas under cultivation and the growth in that circle has been as large as 30 per cent. In Gujarat, the figures in the several periods cannot bear comparison with one another, as in the basic period they included certain unsurveyed tracts which were excluded in later years, and again in later years some new areas were brought into the returns for the first time. On the whole, Gujarat has always been a highly cultivated tract and there has not been much room for extension. In Konkan, the high index numbers for the later years are due to the inclusion of new areas in the returns and it is estimated that no appreciable growth could have taken place in that circle. Deccan is the only circle which shows any contraction in the area under cultivation, although very slight. In Berar the extension has been about 9 per cent and in the Central Provinces about 20 per cent. In the Madras Presidency, Zemindary areas which were not returned before, were gradually brought into the returns from 1901-02 and large areas were included for the first time from 1907-08. This explains the very high index numbers for the later years in the circles comprising that Presidency. From an examination of the later years' figures and assuming that the rate of extension was about the same in the earlier as in the later period, the extension of area in Madras North-East is likely to have been between 10 to 12 per cent, that in

Madras North and Madras South, 5 per cent and in Madras West, between 7 to 8 per cent

136 There is, therefore, no doubt that the actual extension of cultivation in the later years has been much smaller than what is indicated in the table. The statement shows that the index number of the total cultivated area in British India, excluding Burma, fell to 98, *i.e.*, by 2 per cent in the quinquennium 1895-96 to 1899-00 (which includes two famine years), while it rose to 103 in the next quinquennium and to 107 in the next. In 1910-11, it rose to 112, but again fell to 109 in 1911-12. According to the corrected estimates, however, the extension of the area under cultivation in British India excluding Burma for the several periods in each of the several quinquennia has been as shown below —

—	1890 91 to 1894 95	1895 96 to 1899 00	1900 01 to 1904 05	1905 06 to 1909 10	1910 11	1911 12	Average of 1910 11 and 1911 12
Total area	100	98	103	105	108	106	107
Area under foodgrains	100	96	101	102	106	103	105

137 The next two statements and chart No. 41 show the estimated outturn of foodgrains and other crops in British India (excluding Burma) for different periods. In estimating the outturn of the different crops, allowance has been made for the defects in the figures of area under cultivation referred to above. Index numbers have also been calculated and are given in the next table.

Production of crops

[00,000 omitted]

Crops	1890 91 to 1894 95	1895 96 to 1899 00	1900 01 to 1904 05	1905 06 to 1909 10	1910 11	1911 12
Rice Mds	74,21	75,06	75,99	72,30	82,36	79,51
Wheat "	20,40	18,11	21,56	20,32	23,61	25,00
Barley "	8,32	8,85	9,21	9,50	10,31	11,14
Jowar "	17,81	17,82	19,20	17,44	18,78	14,19
Bajra "	6,87	6,36	8,26	8,09	9,10	6,16
Ragi "	4,26	4,42	4,90	4,62	4,80	4,29
Maize "	5,63	6,44	7,47	6,82	7,37	5,71
Gram "	10,71	8,07	9,53	8,71	11,84	12,13
Other foodgrains "	38,51	38,17	39,68	37,18	43,62	45,94
<b>TOTAL FOODGRAINS</b> "	<b>1,86,72</b>	<b>1,83,29</b>	<b>1,95,80</b>	<b>1,84,97</b>	<b>2,11,79</b>	<b>2,04,07</b>
Linseed "	94	79	96	69	1,11	1,40
Oil "	85	92	1,13	1,01	1,10	92
Other oilseeds (including rape and mustard) "	2,86	2,67	2,95	3,14	3,91	3,70
<b>TOTAL OILSEEDS</b> "	<b>4,66</b>	<b>4,38</b>	<b>5,03</b>	<b>4,83</b>	<b>6,12</b>	<b>6,02</b>
Sugarcane "	7,90	7,53	7,12	6,49	6,82	7,39
Cotton "	87	87	1,21	1,38	1,42	1,22
Jute "	2,73	2,94	3,65	4,20	3,62	4,23
Tea lbs	12,31	15,48	19,52	23,03	24,74	25,38
Tobacco Mds	92	1,01	99	92	1,05	99

*Index numbers.*

Crop.	1890 91 to 1894 95	1895 96 to 1899 00	1900 01 to 1904 05	1905 06 to 1909 10	1910 11	1911 12
Rice	100	101	102	97	111	107
Wheat	100	89	106	100	116	123
Barley	100	106	111	114	124	134
Jowar	100	100	108	98	105	80
Bajra	100	92	120	118	133	90
Ragi	100	104	115	108	113	101
Maize	100	115	133	121	131	101
Gram	100	75	89	81	111	113
Other foodgrains	100	99	103	97	113	119
<b>TOTAL FOODGRAINS</b>	<b>100</b>	<b>98</b>	<b>105</b>	<b>99</b>	<b>113</b>	<b>109</b>
Linseed	100	84	102	73	119	149
Til	100	109	133	119	129	108
Other oilseeds (including rape and mustard)	100	93	103	110	137	129
<b>TOTAL OILSEEDS</b>	<b>100</b>	<b>94</b>	<b>108</b>	<b>104</b>	<b>131</b>	<b>129</b>
Sugarcane	100	95	90	82	86	93
Cotton	100	100	139	159	164	141
Jute	100	108	132	154	133	155
Tea	100	126	159	187	201	206
Tobacco	100	110	108	101	114	108

138 The figures in these tables show that, of the foodgrains, the production of Bailey, Bajra and Maize has increased steadily, if allowance be made for some set-back in unfavourable years. The production of Wheat and Ragi has also increased though not so largely. There has not been much increase under Rice and Jowar, while the production of Gram has, on the whole, gone down considerably.

139 Of the oilseeds, the production of Sesamum has increased most, while that of Linseed has decreased to some extent. Taken as a whole, the production of oilseeds has fairly increased. The production of Sugarcane has decreased very considerably, while that of Cotton, Jute and Tea has grown very largely. Under Tobacco, there has been a slight increase in the production.

Production of food grains

140 Expressed in percentages of the average outturn of the quinquennium 1890-91 to 1894-95, the outturns of foodgrains in the several periods were —

	1890 91 to 1894 95	1895 96 to 1899 00	1900 01 to 1904 05	1905 06 to 1909 10	1910 11	1911 12
Average outturn (in millions of maunds)	1,867	1,833	1,958	1,850	2,118	2,041
Percentages	100	98	105	99	113	109

Increase in internal consumption due to growth of population.

141 The growth in the internal consumption has been mainly due to the increase in population in the last two decades. The following statement shows the population of the several circles according to the Censuses of 1891, 1901 and 1911.

Circles	Total Populat on			INCREASE (+) DECREASE (—) SINCE 1891			
				Number		Percentage	
	1891	1901	1911	1901	1911	1901	1911
Assam	5,477	5,842	6,714	+ 365	+1,237	+ 6.2	+18.4
Bengal Northern and Eastern	18,084	19,750	21,912	+1,666	+3,828	+ 8.4	+17.4
„ Southern and Western	24,151	25,640	26,797	+1,489	+2,646	+ 5.8	+ 9.8
Chota Nagpur	4,629	4,900	5,605	+ 271	+ 976	+ 5.4	+17.5
Behar	23,802	23,606	24,019	— 196	+ 217	— 0.8	+ 0.9
Agra Provinces East	11,877	11,402	11,334	— 475	— 543	— 4.1	— 4.8
Bundelkhand	2,300	2,106	2,208	— 194	— 92	— 9.2	— 4.1
Agra Provinces North and West including Oudh	32,728	34,184	33,640	+1,456	+ 912	+ 4.2	+ 2.7
Punjab East	16,298	17,543	16,957	+1,245	+ 659	+ 7.0	+ 3.9
„ West	4,964	4,874	5,215	— 90	+ 251	— 1.8	+ 4.8
Sind	2,875	3,102	3,362	+ 227	+ 487	+ 7.3	+14.5
Gujarat	3,098	2,702	2,803	— 396	— 295	—14.6	—10.5
Konkan	2,967	3,039	3,111	+ 72	+ 144	+ 2.3	+ 4.6
Deccan	9,072	8,787	9,220	— 285	+ 148	— 3.2	+ 1.6
Berar	2,897	2,754	3,057	— 143	+ 160	— 5.2	+ 5.2
Central Provinces	10,784	9,877	11,603	— 907	+ 819	— 9.2	+ 7.0
Madras North East	10,098	10,897	12,087	+ 799	+1,989	+ 7.3	+16.4
„ North	3,699	3,899	5,000	+ 200	+1,301	+ 5.1	+26.0
„ South	17,573	18,856	19,464	+1,283	+1,891	+ 6.8	+ 9.0
„ West	3,808	4,037	4,334	+ 229	+ 526	+ 5.6	+12.1
Calcutta	682	848	896	+ 166	+ 214	+19.5	+23.9
Bombay	822	776	980	— 46	+ 158	— 5.9	+16.1
Madras	452	509	518	+ 57	+ 66	+11.2	+12.7
Karachi	105	109	152	+ 4	+ 47	+ 3.7	+30.9
TOTAL	213,242	220,039	230,988	+6,797	+17,746	+ 3.1	+ 7.6

142 The growth of population has varied widely in the different parts of India. In some circles, there has been an actual decrease during the twenty years 1891 to 1911 namely, in Agra Provinces East, Bundelkhand and Gujarat. In some circles, the growth has been only nominal, namely, in Behar, Deccan, Agra Provinces North and West, Punjab East, Konkan, Berar and the Central Provinces, while in some others, there has been an appreciable increase, namely, in Assam, Bengal Northern and Eastern, Chota Nagpur, Sind, Madras North-East and Madras North. As mentioned elsewhere, the most important factors affecting the growth of population during the two decades have been famine and its attendant furies, cholera, dysentery and fever, plague, which commenced in the city of Bombay in September 1896 and has since then appeared yearly in many parts of the country in a more or less virulent form and has in some years claimed a million of people as its victims, and finally malaria, which also has taken a heavy toll in some of the circles, notably those included in the United Provinces and the Punjab, where in some years it has been terribly prevalent, especially in the irrigated tracts in the eastern and central districts. The following statement shows the annual deaths from plague in the different provinces since its first appearance.

*Number of Deaths from Plague in the different Provinces of India from 1896 to 1912*

Year	Bengal	United Provinces	Punjab	North West Frontier Province	Central Provinces and Berar	Eastern Bengal and Assam	Madras	Bombay	Total	Progressive Total
1896								2,219	2,219	2,219
1897		72	179		11		2	47,710	47,974	50,193
1898	219	148	2,019		131		557	86,191	89,265	139,458
1899	3,264	7	255		586		1,658	96,596	102,366	241,824
1900	38,412	135	572		592		664	33,196	73,571	315,395
1901	78,629	9,778	16,720		9		3,035	128,259	236,430	551,825
1902	32,967	43,487	175,645	4	4,647		11,362	184,752	452,864	1,004,689
1903	65,680	80,729	192,068	49	51,514	28(a)	13,006	281,269	684,343	1,689,032
1904	75,456	179,082	396,357	1	42,806		20,125	223,957	937,784	2,626,816
1905	126,084	383,802	334,897	3	12,706	6	5,788	71,363	934,649	3,561,465
1906	59,619	69,660	91,712	41	18,121	74	898	57,525	291,656	3,853,115
1907	83,602	328,862	608,685	1,547	37,774	8	2,872	93,609	1,156,959	5,010,074
1908	16,948	22,878	30,708	563	6,236		3,358	27,345	107,036	5,117,110
1909	11,779	38,394	35,655	1	19,216	1	3,844	24,319	133,209	5,250,319
1910	46,584	158,074	135,483	30	28,961	46	4,867	25,043	399,088	5,649,407
1911	75,681	332,301	175,345	243	27,938	27	15,185	100,399	727,119	6,376,526
1912	1,837	105,784	29,174	2	18,712		4,620	18,811	178,940	6,555,466

(a) Only in Assam.

143 It is interesting to note that there are two large currents of migration from Bengal including Bihar and Chota Nagpur, one to the tea-gardens of Assam and the other to Calcutta and other industrial centres. It is this migration which has caused a large increase in the population of the sea-port towns, though owing to plague there was a large decrease in the population of Bombay in the first decade. But it has been more than made good in the following decade.

144 If we estimate the population of the years, other than those in which the censuses were taken, by the method of interpolation, after making allowances for the large mortality from plague, the average population of the several quinquennia were as follows —

Period	Average population in millions	Index number
1891—95	214	100
1896—00	217	101.6
1901—05	222	103.7
1906—10	226	105.7
1911	231	107.8
1912	232	108.4

145 The following table compares the growth of population with that of production of foodgrains and the extension of cultivation —

	Average of the quin quennium 1890 91 to 1894 95	Average of the quin quennium 1895 96 to 1899 00	Average of the quin quennium 1900 01 to 1904 05	Average of the quin quennium 1905 06 to 1909 10	1910 11	1911 12
Population	100	101.6	103.7	105.7	107.8	108.4
Total area under cultivation	100	98	103	105	108	106
Area under food grains	100	96	101	102	106	103
Production of food-grains	100	98	105	99	113	109

146 It may safely be concluded from the above, that population has increased by a larger percentage in the period under enquiry than either the total area under cultivation, the area under foodgrains or the total production of foodgrains, or, in other words, the requirements of foodgrains for internal consumption have increased in a larger proportion than the total production of foodgrains. It should, however, be mentioned that the total consumption of foodgrains includes not only the consumption as human food, but also consumption as seed grain and cattle food. Whenever there is a scarcity, consumption, as cattle food, goes down considerably, as owing to high prices people cannot afford to feed their cattle with grain. Further, in good years, a stock of foodgrains is generally laid by, by the agriculturists, which is utilised in times of scarcity and famine. The export of foodgrains also goes down in unfavourable years and import rises, and thus, although the actual percentage growth of the production may, in any period, be smaller than the growth of population, it should not necessarily be assumed that the total available food supply in the country was actually very short of the requirements of human consumption.

147 If however, we take the production of Burma into account, the disparity between the figures showing the growth of population and growth of production would be found to be smaller, as the increased production in Burma has counterbalanced to a large extent the shortage in India proper.

Growth of population compared with growth of cultivation and of production of foodgrains.

148 The production of the several foodgrains in Burma were as follows —

[In lakhs of maunds

Crops	1890 91 to 1894 95	1895 96 to 1899 00	1900 01 to 1904 05	1905 06 to 1909 10	1910 11	1911 12	Average of 1910 11 and 1911 12
Rice	7,47	8,34	11,10	11,90	11,26	11,21	11,23
Wheat	1	1	2	2	2	1	2
Jowar	21	20	34	33	12	12	12
Gram	4	4	6	6	5	4	4
Other foodgrains	17	17	26	42	74	45	60
<b>TOTAL FOODGRAINS</b>	<b>7,90</b>	<b>8,76</b>	<b>11,78</b>	<b>12,73</b>	<b>12,19</b>	<b>11,83</b>	<b>12,01</b>

*Index numbers*

—	1890 91 to 1894 95	1895 96 to 1899 00	1900 01 to 1904 05	1905 06 to 1909 10	1910 11	1911 12	Average of 1910 11 and 1911 12
Rice	100	111	149	159	151	150	151
Wheat	100	62	135	173	146	105	126
Jowar	100	96	159	154	55	58	57
Gram	100	94	139	145	119	88	104
Other foodgrains	100	96	153	241	438	260	349
<b>TOTAL FOODGRAINS</b>	<b>100</b>	<b>111</b>	<b>149</b>	<b>160</b>	<b>154</b>	<b>150</b>	<b>152</b>

149 And adding this quantity of foodgrains produced in Burma to the production of India, the total supply of foodgrains would compare with the growth of population as follows —

—	Average of the quinquennium 1890 91 to 1894 95	Average of the quinquennium 1895 96 to 1899 00	Average of the quinquennium 1900 01 to 1904 05	Average of the quinquennium 1905 06 to 1909 10	1910 11 to 1911 12
Population	100	101 8	104 5	106 3	109 2
Production of food- grains	100	99	107	103	113

150 The external demands for Indian foodgrains have also increased considerably, as will be evident from the figures in the Trade Statistics. The exports of foodgrains from India (excluding Burma) to other countries in the several periods were —

—	Average of quinquen- nium 1890 91 to 1894 95	Average of quinquen- nium 1895 96 to 1899 00	Average of quinquen- nium 1900 01 to 1904 05	Average of quinquen- nium 1905 06 to 1909 10	1910 11	1911 12
In thousands of cwts	28,899	21,956	33,255	29,568	41,857	64,240
Index numbers	100	76	115	102	145	222



151 The fall in exports in the second quinquennium was due to the bad seasons of 1896-97, 1897-98 and 1899-00. The percentage for the third quinquennium would have been higher but for the very low exports in 1900-01 owing to the famine of 1900, and that for the fourth quinquennium was reduced by the famine of 1908. If the exports of 1908-09 be excluded, the average for the quinquennium would have been 33,737 thousands of cwts, and the index number 117. The high figure of the year 1911-12 is due to the good season of the previous year in most parts of the country, but even if this special element of favourable season be allowed for, the growth of the export trade in foodgrains would be found to have been much higher than that in the basic period.

152 To meet this deficiency in her food-supply, India has been importing foodgrains chiefly from Burma, and to some extent from other countries also. The imports of foodgrains in the several years were —

	Thousands of cwts		Thousands of cwts
1890-91	2,286	1901-02	16,379
1891-92	1,762	1902-03	9,533
1892-93	3,016	1903-04	4,370
1893-94	7,705	1904-05	6,795
1894-95	6,084	1905-06	10,557
1895-96	3,201	1906-07	17,308
1896-97	7,974	1907-08	20,561
1897-98	13,545	1908-09	25,458
1898-99	7,390	1909-10	22,033
1899-00	16,101	1910-11	12,016
1900-01	25,304	1911-12	5,505

153 The average imports of the several quinquennia and their index numbers were —

	Average of 1890 91 to 1894 95	Average of 1895 96 to 1899 00	Average of 1900 01 to 1904 05	Average of 1905 06 to 1909 10	1910 11	1911 12
Imports, thousands of cwts	4,171	9,643	12,476	19,183	12,016	5,505
Index numbers	100	231	299	460	288	132

154 The imports were heaviest in the quinquennia 1900-01 to 1904-05 and 1905-06 to 1909-10, and although the quinquennium 1895-96 to 1899-00 includes two famine years, the imports were much lower. Even in the most favourable of recent years, the imports never fell below the average of the first quinquennium.

155 The available supply of foodgrains in the country, during each of the periods shown above, may be calculated as follows, after taking into account the total production of the country and the imports from and exports to foreign countries —

*Net Available Supply of Foodgrains in India*  
IN MILLIONS OF CWTs

	1890 91 to 1894 95	1895 96 to 1899 00	1900 01 to 1904 05	1905 06 to 1909 10	1910 11	1911 12
Total production	1,372	1,347	1,439	1,359	1,556	1,49
Total imports from foreign countries	4	10	12	19	12	6
TOTAL	1,376	1,357	1,451	1,378	1,568	1,55
Exports to foreign countries	29	22	33	30	42	6
Net available supply	1,347	1,335	1,418	1,348	1,526	1,44
Index numbers	100	99	105	100	113	10

156 Considering the growth of the population and the increase in the external demand, the supply has been short during the greater part of the period embraced in the enquiry. The demand for both internal consumption and exports having increased at a quicker rate than the production of foodgrains, it is only natural that the general level of prices of foodgrains over a series of years would rise, although in a particularly favourable year it might have fallen to some extent. The food-supply in India, compared with the demand, both internal and external, reached its lowest level in the quinquennium 1905—09, and this shortage of supply has doubtless contributed, in no small measure, to the unusual rise in prices during that quinquennium.

157 As regards the other agricultural products of India, the summary tables at pages 55 and 56 show the production of the several crops in the several periods with their index numbers. Production of crops other than food-grains

158 The production of Oilseeds fell to an abnormally low level in the quinquennium 1895-96 to 1899-00 and then gradually rose in the succeeding quinquennium, the outturns of 1910-11 and 1911-12 being about the same as in the preceding quinquennia. The production of Sugar gradually declined in the successive quinquennia and, though it, to some extent, recovered in 1911-12 the ground lost, it is still much lower than in the basic period. The production of Cotton has steadily increased, owing to the stimulus of large profits, there being a slight decline in 1911-12, Jute also has for the same reason gone on steadily increasing, until in 1907-08 the production exceeded the demand considerably and a decline followed. Since then, the ground lost is being gradually recovered again. The variations in the production of Tobacco has been inconsiderable, while there has been a steady and continuous increase in the production of Tea.

159 The decreased production of Sugar in India has led to a rise in the price of Country Sugar (including *Gur*), while the price of imported Sugar has declined. Over-production of Tea has caused a downward slide in prices of that commodity, but the price of Cotton has gone up in spite of the increased production owing to a larger demand for Indian cotton in other countries. High prices had led to increased cultivation of Jute and, owing to increased demand, prices continued on their upward course until 1908, when the effect of over-production was felt and prices fell, prices have again been rising since.

#### UNSEASONABLE RAINFALL

160 India is pre-eminently an agricultural country, and has to depend almost entirely on its rainfall, for its prosperity or otherwise. Seasonable rainfall. If the rainfall is good and fairly distributed, there is a bumper crop all round, while a deficiency brings in its train scarcity and famine. It will be seen from the production and rainfall figures that short production and unseasonable rainfall go hand in hand, and that too great an importance cannot be attached to seasonable rainfall in this country.

161 A statement has been prepared by Dr G. T. Walker, CSI, FRS, Director-General of Observatories (reproduced on pages 452-453 of Vol III, Statistics), which shows the frequency of droughts in India as compared with other countries. The general conclusion from the statistics is, that of all countries which are dependent on agriculture, none has a rainfall so precarious as India.

162 Charts Nos 42 to 49 show the annual rainfall in India and the annual and seasonal rainfalls of the several circles. The seasons vary widely in the different circles and it has not been possible to combine the seasonal rainfalls of all the circles into one for all India.

163 Deficiencies not less than 30 per cent and excesses not less than 50 per cent of the normal rainfall in each season in the several circles during the period under enquiry are detailed in Appendix F. Both shortage and excess of rainfall

have an equally injurious effect on the crops depending on it, but even a shortage or excess is not very harmful if the rainfall is fairly distributed, while a normal rainfall, if unevenly distributed, is sure to be prejudicial. Thus, all the excesses or deficiencies shown in the table might not have necessarily caused an injury to the crops, while in some of the other periods not shown in the table, the rainfall, though neither short nor excessive in the aggregate, might still have caused extensive damages owing to bad distribution.

164 The abnormal conditions of the rainfall of the several provinces during the period under enquiry and their effect on the crops are summarised in a separate memorandum appended as Appendix F. Besides shortage and abnormal distribution of rainfall, crops suffer from other causes also, such as floods, hailstorm, frost, rust, cloudy weather and intense cold, while wild animals, field-rats, locusts and other insect pests also cause serious damage. Examples of such injuries are given in the memorandum referred to above. India is not a small country but a continent, and it is a matter not to be wondered at that in almost every year there have been failures of crops of varying degrees, either widespread or confined to particular tracts. The years 1892-93 and 1903-04 were the only really good years during the period under enquiry when the crops were excellent throughout the country.

Summary of the  
agricultural seasons

165 The main features of the agricultural seasons during the period under investigation may be summarised as follows. The period opened with favourable seasons and good harvests throughout India except in the Madras Presidency, where the year 1891-92 was somewhat adverse and there was almost a famine in that province. Abundant harvests of rice, wheat and oilseeds were gathered in 1892-93, and in the two following years also the harvests were generally good, notwithstanding untimely and, in some circles, excessive rain. In 1895, there was a change and a period of insufficient rainfall and crop-failure ensued, culminating in the great famine of 1897, a famine not confined to any particular areas but affecting almost every part of India. The year 1898 was a year of rest and, in Northern India, of rapid recovery, but it was succeeded by a more complete failure than before of the rainfall, in some parts, and in 1899 and 1900, there was again a total failure of the crops over large areas, especially in Central and Western India, and a famine ensued, the severity of which was still fresh in the memory of the ryots whom we examined in the Central Provinces, Berar, the Bombay Presidency and the Punjab. The disastrous famine was followed by three years of subnormal production, especially in Northern and Central India. The year 1903-04 was the first all-round good year after the famine and the crop was a bumper one. In 1904-05, however, the Rabi crops in Bihar and Bundelkhand were poor, while the Kharif was deficient in the central and south-western districts of the Punjab. In the Bombay and Madras Presidencies also, the crops suffered from unseasonable and deficient rainfall. In 1905-06 also, there was a partial failure of the monsoon in Northern and Western India and heavy rains and floods marked the year in Bengal. The crops were specially bad in the Bombay Presidency, where famine was declared. In 1906, the spring crops were below normal and the autumn crops were damaged, more or less by excessive rains and floods, particularly in Bengal, and there was famine in North Bihar. This was followed by the failure of the South-West Monsoon in 1907-08, when the United Provinces of Agra and Oudh, the Central Provinces and parts of the Bombay and Madras Presidencies were plunged into severe distress. The years 1909-10 and 1910-11 were years of good harvest and 1911-12 was also good, except in parts of the Punjab and the Bombay Presidency.

166 The effect and extent of the unfavourable seasons during the period 1896—1912 may be seen from the following table —

Extent of famine during the period under investigation

*Area and Population affected by Famines and Cost of Relief during the years 1890—1912*

Years	Provinces	Area affected	Population affected	Cost in lakhs of rupees
		Sq m		
1888 89	Bihar and Madras	3,500	1,000,000	25
1891 92	Madras	50,000	7,000,000	1,00
1896 97	Bengal, Madras, Central Provinces, United Provinces of Agra and Oudh, Bombay and Punjab	225,000	62,000,000	17,07
1899 00	Central Provinces, Berar, Bombay, Punjab, Ajmer	189,000	28,000,000	16 51
1905 06	Bombay	23 411	3 334,000	16
1906 07	North Bihar	2 855	13,000,000	18
1907 08	United Provinces of Agra and Oudh, Central Provinces, Bengal, Bombay and Madras	130,480	49,628,553	0 18

167 The extensive construction of irrigation works in the last two decades, especially in districts with a precarious rainfall, has succeeded in mitigating the adverse effects of drought in many tracts, where considerable areas would have otherwise remained uncultivated in years of deficient rainfall. The following tables show the area irrigated in each of the quinquennia from these sources as well as from wells, and the percentages of the area irrigated to the total area cultivated for all circles except those in the provinces of Assam, Bengal and Bihar and Orissa, for which complete figures are not available

Extension of irrigation

*Percentages of Irrigated Areas to Total Area Cultivated*

	Average of quinquennium 1890 91 to 1894 95	Average of quinquennium 1895 96 to 1899 00	Average of quinquennium 1900 01 to 1904 05	Average of quinquennium 1905 06 to 1909 10	1910 11	1911 12
Agra Provinces East	36 7	38 8	37 1	38 1	33 6	29 4
Bundelkhand	3 6	5 4	4 3	7 4	5 6	5 4
Agra Provinces North and West	25 3	30 2	27 8	31 1	23 9	22 6
Punjab East	26 6	37 9	36 7	38 7	37 4	46 2
„ West	22 6	24 2	23 5	24 3	25 7	27 3
Sind	87 1	82 2	85 8	82 8	79 2	98 1
Gujarat	3 2	4 7	3 4	3 9	4 0	7 7
Konkan	3 1	3 2	3 0	2 8	2 7	2 8
Deccan	3 3	4 0	3 3	3 2	3 5	4 0
Berar	6	1 0	6	7	5	5
Central Provinces	4 4	3 9	3 2	4 2	3 5	3 0
Madras North-East	32 8	34 2	37 6	44 8	43 7	43 3
„ North	9 1	8 6	7 8	7 7	8 1	7 0
„ South	33 3	32 9	33 8	33 3	34 0	33 8
„ West	2 7	2 5	1 0	2	2	2
India*	19 1	23 3	21 7	23 5	22 0	23 1

\* Does not include figures for Assam, Bengal and Bihar and Orissa

168 It has been explained in the foot notes to the Agricultural Statistics (Vol III—Statistics) that in some parts of India, extensive areas which had been under cultivation for a long time, were included in the statistics for the first time in the later years. The index numbers of the area figures would not, therefore, give an accurate idea of the beneficial results of artificial irrigation. The percentage figures are, however, more reliable in this respect than the index numbers, and have, therefore, been quoted in the above table instead of index numbers. An examination of these percentages shows that generally in the periods in which there was deficient rainfall, areas, larger than in the other periods, were irrigated to make good the deficiency of moisture in the soil. They also show, that, apart from this, there has been a progressive growth in irrigation in India, particularly in Agra Provinces East, Punjab East, Punjab West, Sind, Madras North-East and Madras South.

#### SUBSTITUTION OF NON-FOOD FOR FOOD-CROPS

Food crops displaced  
by non food crops

169 It has been asserted by some that a gradual extension of the cultivation of commercial crops, such as jute, cotton and oilseeds, has led to a contraction of the area under foodgrains and of their outturn, resulting in a rise in the prices of the latter. The high prices of jute and cotton have no doubt induced cultivators in the jute and cotton-growing areas to cultivate these crops in preference to foodgrains and the statistics below and Chart No. 39 also bear out the truth of this statement —

*Percentages of the area under crops to the total gross cultivated area in British India (excluding Burma)*

	Quinquen- num 1890 91 to 1894 95	Quinquen- num 1895 96 to 1899 00	Quinquen- num 1900 01 to 1904 05	Quinquen- num 1905 06 to 1909 10	1910 11	1911 12
Foodgrains	81.3	81.0	80.2	79.3	79.7	78.2
Oilseeds	6.0	5.5	5.7	5.4	5.6	6.5
Jute	1.0	1.0	1.1	1.4	1.2	1.4
Cotton	4.6	4.4	5.1	5.7	5.9	6.0

Figures do not show  
such displacement  
fully

170 As already mentioned, large new areas have been included in the returns for the later years, particularly in the Madras Presidency, which grows no jute and but very little cotton. Had the figures for the earlier years been complete, the percentages of jute and cotton in the first three quinquennia would have been smaller than those shown in the above table.

171 It should also be borne in mind that every part of India does not grow cotton and jute, and consequently the total area under these two crops forms only a small percentage of the total area cultivated, and the increase in their percentages for all India must necessarily be small, although in the actual cotton and jute-growing areas, it might have been appreciable. It is, therefore, necessary in this connection to examine the figures for individual circles.

Elucidation of the  
percentages of the  
important crops in  
different circles

172 From the subjoined statement and Chart No. 40 it will be seen that the cultivation of jute has been developed at the expense of other crops in Bengal Northern and Eastern, Bengal Southern and Western and Bihar, that of cotton in Punjab East, Sind, Gujarat, Deccan, Berar, Central Provinces and Madras South, and that of oilseeds in Central Provinces and Madras South. In all cases, however, these crops have not been substituted for foodgrains alone, thus in Bengal Southern and Western, jute has only displaced oilseeds,

sugarcane and indigo, while in Bihar, only indigo has given place to jute. But in Bengal Northern and Eastern, jute has been substituted for food-crops, in Sind and Berar, cotton has grown at the expense of food-crops and oilseeds, and in the other circles mentioned above, cotton and oilseeds have displaced food-crops. It will be seen that this substitution commenced in the quinquennium 1900-01—1904-05, but was specially marked in the next quinquennium and has continued since.

	PERCENTAGE TO THE TOTAL GROSS AREA CULTIVATED					
	Quinquennium 1890 91 to 1894 95	Quinquennium 1895 96 to 1899 00	Quinquennium 1900 01 to 1904 05	Quinquennium 1905 06 to 1909 10	1910 11	1911 12
<b>BENGAL NORTHERN AND EASTERN</b>						
Foodgrains	71 48	70 1	68 54	65 64	67 9	67 7
Jute	11 28	10 7	12 22	14 9	13 2	14 1
<b>BENGAL SOUTHERN AND WESTERN</b>						
Foodgrains	85 34	84 88	85 04	84 4	86 1	85 4
Oilseeds	4 5	4 24	4 22	3 2	3 1	3 2
Sugarcane	1 46	1 08	96	8	7	6
Indigo	1 02	82	12			
Jute	1 42	1 14	1 28	2 76	2 2	2 5
<b>BIHAR</b>						
Foodgrains	84 64	83 54	82 96	83 78	84 1	84 4
Indigo	1 72	1 64	1 16	68	5	5
Jute	46	4	72	1 22	1 1	1 2
<b>PUNJAB EAST</b>						
Foodgrains	84 58	77 76	76 26	75 0	75 6	72 3
Cotton	3 28	5 14	5 26	4 44	4 4	5 0
<b>SIND</b>						
Foodgrains	81 56	83 04	83 32	83 14	83 9	79 5
Oilseeds	12 34	10 48	9 88	8 32	7 5	7 4
Cotton	3 06	3 18	4 44	5 78	6 1	10 3
<b>GUJARAT</b>						
Foodgrains	74 94	76 96	72 22	68 68	67 0	66 8
Cotton	18 1	16 64	19 46	23 74	26 0	26 9
<b>DECCAN</b>						
Foodgrains	80 02	80 1	78 8	76 9	74 7	73 0
Cotton	10 42	10 34	12 46	14 86	16 7	18 0
<b>BERAR</b>						
Foodgrains	56 7	57 4	54 84	52 76	51 1	48 4
Oilseeds	8 82	6 26	5 08	3 18	3 2	4 2
Cotton	33 06	34 88	38 46	42 56	44 2	46 1
<b>CENTRAL PROVINCES</b>						
Foodgrains	80 56	82 12	79 8	79 2	79 6	76 1
Cotton	4 24	4 14	6 58	6 9	6 3	6 6
Oilseeds	11 64	10 32	10 66	10 74	11 2	14 4
Other crops	3 56	3 42	2 96	3 16	2 9	2 2
<b>MADRAS SOUTH</b>						
Foodgrains	82 78	83 32	81 74	79 86	79 6	76 8
Oilseeds	6 71	6 06	7 84	8 48	8 2	10 6
Cotton	4 8	4 34	4 34	5 54	6 2	7 0

173 The available statistics of cultivation are doubtless defective, and cannot be absolutely relied upon, but, as explained above, there cannot be any doubt

that the cultivation of non-food crops has grown steadily and that the area under foodgrains has actually contracted in some circles, while in some others its growth has been retarded, and the net result has been a diminution of the food supply of the country and a consequent rise in prices. In Bengal Northern and Eastern, Gujarat, Deccan and Berar, the actual area under foodgrains has probably been curtailed, while in the other circles mentioned above the growth of the area cultivated with them has only been retarded.

174 Another effect of this increased cultivation of the commercial crops on the food supply of the country has been that the best lands available are applied towards their cultivation, while the cultivation of foodgrains is relegated, to some extent, to inferior lands, the yield of which even in normal years is much less.

175 It should be remembered that the total area which these commercial crops have occupied at the expense of foodgrains is very small compared with the total area under cultivation of the latter, and consequently the effect of this substitution could not have been very great, though it is a factor which cannot altogether be ignored. It is true the total exports of foodgrains from India amount to a very small percentage of the total production, but even a small increase in this percentage, owing to increased demands from other countries, is sure to send up prices, and, in the same way, a contraction in the supply or a retardation of its growth however small, will have the same effect.

#### INFERIORITY OF NEW LANDS TAKEN UP FOR CULTIVATION

176 Signs are not wanting that cultivation has expanded, more or less, in every part of India but taking India as a whole, the expansion has not been very large, as has already been explained. Nature always follows the line of least resistance and it is only natural that in every country, when it first came to be inhabited, lands that were most fertile and most easily accessible, should be taken up for cultivation first. India is not an exception to the rule, and at the commencement of the period under enquiry most of the better class lands had already been under the plough. With an increase in the pressure of population on the soil and increased demands for agricultural products from other countries, new lands had to be broken up, in some parts, e.g., the Chenab River Colony, virgin fertile lands were made suitable for cultivation by the construction of new canals, but in the more populous tracts which constitute by far the bulk of the total area, all lands that were good had already been taken up, and whatever new lands were brought under cultivation were necessarily of an inferior quality. The produce of this inferior land cannot be so good as that of the richer soils, and consequently the addition of these poorer lands has diminished, to some extent, the average yield per acre for India as a whole.

177 As explained above, non-food crops, such as jute and cotton, have in some areas displaced food-crops or ousted them from the richer soils, and this also has affected the average yield of foodgrains per acre. But considering the very small percentage of the extension of cultivation and the very small area, compared to the total, by which the cultivation of cotton and jute has grown, the reduction in the average yield per acre cannot but be inappreciable small. The conditions of the seasons vary so widely in different years, even in the same district, let alone the whole continent of India, that it is impossible to find any two years in two different periods in which the climatic and agricultural conditions were the same. It is, therefore, impossible to obtain statistics which would show by how much the average yield per acre has been reduced on this account—but there can be no doubt that, whatever it may be, it is quite insignificant.

#### INEFFICIENT TILLAGE.

178 Most of the Indian witnesses, whom we examined, appeared to be under the belief that there has been a decrease in the supply of agricultural products, owing

Commercial crops  
have ousted food  
grains from best  
lands

Total new area  
under commercial  
crops comparatively  
very small

Best lands already  
under cultivation

Decrease in the  
average yield due to  
the displacement  
of foodgrains from  
best lands by  
commercial crops

Tillage inefficient  
through scarcity

to inefficient tillage of the land' It was said that land is not now cultivated as carefully and efficiently as before, owing to scarcity and dearness of plough-cattle and labour In order to effect a saving in the cost of cultivation, cultivators do not also plough their lands as often as they used to do before, and manuring and weeding, as also the amount of irrigating where wells are used for the purpose, have all been reduced There is no doubt that with the development of different kinds of industries, the opening of new railways, mills and factories, the construction of canals, roads and buildings on a much larger scale, the demand for labour has increased considerably The supply, on the other hand, has not grown in the same proportion, in some parts, the Punjab and the United Provinces of Agra and Oudh for example, plague has appreciably reduced the number of labourers, and in some other parts, immigration has played an important part in restricting the labour supply While at Chupra, I saw special trains conveying thousands of labourers every day from that locality to Northern and Eastern Bengal Throughout the country, the demand for labour has taken a new turn and instead of labourers seeking for employment, it is the employers who now seek for labourers

179 As regards the scarcity of plough-cattle, the statement below shows the number of bulls, bullocks and buffalo-bulls at stated periods for the several circles, except Bengal Northern and Eastern, Bengal Southern and Western, Chota Nagpur and Bihar, for which such statistics are not available These figures bear testimony to the deplorable effects of famine, the inevitable result of which has always been to reduce the number of cattle, though the deficiency is generally made good in a few years if otherwise favourable The number of plough-cattle in the latest year included in the statement was lower than in the commencement, in some of the circles, namely, Assam, Bundelkhand, Agra Provinces—North and West, Gujarat, Deccan, Berar, Madras North, and Madras West Although great reliance cannot be placed on these statistics, they can be accepted as showing that in some areas at any rate there has been a dearth of plough-cattle

Number of Bulls, Bullocks and Buffalo-bulls

[In thousands]

	Number	Index No		Number	Index No
			PUNJAB EAST		
AGRA PROVINCES EAST			1893-94	3,821	100
			1898-99	4,125	108
1893-94	2,551	100	1903-04	3,987	104
1898-99	2,310	91	1908-09	4,069	106
1903 04	2,607	102	PUNJAB WEST		
1908-09	2,642	104	1893-94	1,044	100
BUNDELKHAND			1898-99	1,157	111
1893-94	590	100	1903-04	1,064	102
1898-99	533	90	1908 09	1,157	111
1903 04	622	105	SIND		
1908-09	567	93	1899 00	534	100
AGRA PROVINCES NORTH AND WEST			1901-02	555	104
1893-94	7,918	100	1905-06	572	107
1898-99	7,890	100	1909-10	605	113
1903-04	8,640	109	GUJARAT		
1908-09	7,648	97	1893-94	538	100
			1897-98	508	94
			1901-02	398	74
			1905-06	412	76
			1909-10	441	82



[In thousands.]

	Number	Index No		Number	Index No
KONKAN			MADRAS NORTH-EAST		
1893-94	474	100	1890-91	915	100
1897-98	467	99	1894-95	1,004	109
1901-02	463	98	1899-00	986	108
1905-06	483	102	1904-05	1,014	110
1909-10	518	109	1909-10	2,389	261*
DECCAN			MADRAS NORTH		
1893-94	2,449	100	1890-91	877	100
1897-98	2,123	87	1894-95	904	103
1901-02	1,737	71	1899-00	854	97
1905-06	1,796	73	1904-05	836	95
1909-10	1,975	80	1909-10	859	98
BERAR			MADRAS SOUTH		
1893-94	771	100	1890-91	2,590	100
1896-97	815	106	1894-95	2,731	105
1899-00	738	96	1899-00	2,679	103
1902-03	674	87	1904-05	3,080	119
1905-06	691	89	1909-10	3,470	134*
1908-09	741	96			
CENTRAL PROVINCES			MADRAS WEST		
1896-97	3,128	100	1890-91	779	100
1899-00	3,186	102	1894-95	792	102
1902-03	3,205	103	1899-00	782	100
1905-06	3,410	109	1904-05	792	102
1908-09	3,621	116	1909-10	742	95

\* Increase due to inclusion of new areas in the returns

180 It is, therefore, possible that in these areas at any rate the cultivation of land has become less efficient than before, but it is very doubtful whether this has had any appreciable effect on the total outturn of the land

181 There might also have been a decrease in the extent of manuring in localities in which, owing to the restrictions imposed on the removal of wood from forests, the use of cow-dung as fuel has increased, and it is not available to the same extent as before for purposes of manuring

182 As has been explained below, careful experiments made from time to time do not show that apart from the effect of unfavourable seasons, there has been any change in the productive power of the soil, and that even if there has been any inefficiency in the cultivation of land, it has not affected the total outturn to any remarkable extent

#### DECREASE IN THE PRODUCTIVE POWER OF THE SOIL

183 One of the causes of the rise of prices was, many witnesses thought, a decrease in the supply of agricultural produce due to a decrease in the productive power of the soil, but no one was able to furnish any statistical data to prove this. In fact, there is no statistical evidence to show that any change has taken place in the fertility of agricultural land in any part of India, either during the period under enquiry or even during a much longer period. The theory of deterioration is no new one and there is no doubt that it has been frequently grossly exaggerated. Colonel Sleeman in his 'Rambles and Recollections,' Vol II, page 152, records an interesting conversation which he had in the spring of 1836 with a Rajput of the Meerut district on the subject

"It cannot be disputed that the *burkut* (blessing from above) is less under you than it used to be formerly and that the lands yield less to our labour"

“ True, my old friend, but do you know the reason why ? ”

“ No ”

“ Then I will tell you Forty or fifty years ago, in what you call the times of *bulut* (blessing from above), the cavalry of Seikh freebooters from the Punjab, used to sweep over this fine plain, in which stands the said village from which you are all descended, and to massacre the whole population of some villages, and a certain portion of that of every other village, and the lands of those killed used to lie waste for want of cultivators Is not this all true ? ”

“ Yes, quite true ”

184 The tract referred to is now one of the richest in the United Provinces, its wheat has a special reputation among Indian wheats in the English markets, and its railway stations have frequently required enlargement to meet its growing trade Notwithstanding a much more exhaustive system of cropping than was practised in Colonel Sleeman's time, the increasing volume of exports from that part gives no indication that productiveness of the soil is *ceteris paribus* decreasing It is sometimes held that a proof of the deterioration of the soil is the fact that the outturns given in the *Am-i-Akbari* are higher than those given in the Agricultural Statistics of the Government of India Statistics of the outturn of crops given in the *Am-i-Akbari* are, at best, mere approximations to the truth and their reliability is problematical Land is there divided into *Polaj* land, *Parauti* land, *Chachar* land and *Banjar* land, and then it is said

“ Of the first two kinds of land, there are three classes good, middling, and bad They add together the produce of each sort and a third of this represents the medium produce, one-third part of which is exacted as the royal dues The revenue levied by Sher Khan, which at the present day is represented in all provinces as the lowest rate assessment, generally obtained and for the convenience of the cultivators and the soldiery the value was taken in ready money ”

185 The following are the outturns of rice and wheat of *Polaj* land The figures in the *Am-i-Akbari* are given in Akbari maunds per bigha and the Akbari maund was one-half the modern standard maund and the Akbari bigha was 538 of an acre The following figures may, therefore, be taken to represent the outturn in standard maunds per acre —

	Produce of a bigha of the best sort of <i>Polaj</i>		Produce of a bigha of the middling sort		Produce of a bigha of the worst sort		Aggregate produce of three bighas of different sorts		One third of the preceding being the medium produce of a bigha of <i>Polaj</i>		One third of the medium produce, being the proportion fixed for the revenue	
	Md	Sr	Md	Sr	Md	Sr	Md	Sr	Md	Sr	Md	Sr
Wheat	18	0	12	0	8	35	38	35	12	38½	4	12½
Rice (common)	17	0	12	20	9	15	38	35	12	38½	4	13

186 The tracts referred to in the *Am-i-Akbari* are mainly those of the United Provinces, and the outturns for these provinces now are —

	Md	Sr
Wheat	12	31
Rice	10	13

187 The difficulties of comparing the two sets of outturns are very great, in view of the fact that we do not know how the averages given in the *Am-i-Akbari* were obtained, *i e*, for what areas and from how many years' figures they were calculated The averages seem to be merely the averages of good, bad and middling lands, and these averages of the three classes of lands may not necessarily represent the average outturn, specially because no attempt was made to find out under which of the three classes of lands (good, bad and middling) the area was

the greatest There is no doubt that with the increase in the acreage of cultivation, especially of less fertile soils, the average outturn would decrease, but to establish a deterioration it must be shown that the land, which was under cultivation in former times, now yields less than it did before

“ In the case of wheat, especially,” says Mr S Srinivasa Raghavaiyengar, C I E, “ irrigation makes a great difference, the yield of irrigated wheat being from 50 to 300 per cent in excess of the outturn of unirrigated wheat The dominions of the Emperor Akbar did not extend to the south of the Vindhya Mountains, and the *Am-i-Akbari* rates cannot therefore be applied to Southern India If the rate for rice, 1,338 lbs, given in these tables refer to unhusked rice, the Madras settlement average (1,621 lbs) is considerably higher Cotton is frequently sown as a mixed crop, and it is difficult to calculate its average outturn There is nothing, however, to show that its outturn has diminished In a recent report on the cultivation of cotton in the Tinnevely District submitted to the Madras Agricultural Department by an Agricultural Inspector, it is stated, ‘ cotton soils of the best quality sell for Rs 1,000 a sanghili (3 64 acres), ordinary soils for Rs 500, while inferior soils sell below Rs 200 In fertile soils and under good treatment 1,000 lbs seed cotton per acre is no unusual outturn, an ordinary good yield of cotton may be taken to vary from 750 lbs to 900 lbs of seed cotton, while 500 lbs may be taken as a fair average yield taking all soils into consideration These figures have been arrived at from the statements of different classes of ryots and include the first and second courses of pickings ’ ”

*Polaj* land, it must be noted, was the best cultivable land and, owing to the heavy revenue collected from it and the sparseness of the population it must have been difficult at that time to get the land brought under cultivation, so that *Polaj* land must have formed a considerable part of the total area under cultivation Under British rule, however, the area under cultivation has enormously increased so that inferior land has been brought under cultivation owing to agricultural prosperity This would lower the average of productivity, but it certainly does not prove that a deterioration in the soil has taken place It is, in short, impossible to compare the outturns of the *Am-i-Akbari* with the yields published in the Appendix to the Agricultural Statistics of the Government of India

188 Mr R Wallace, Professor of Agricultural and Rural Economy in the University of Edinburgh, says “ One old and very important question with regard to India still continues to be asked ‘ Is the fertility of the soil being exhausted by the native practices that have been going on for thousands of years ? ’ My unqualified answer is ‘ No ’ ” He quotes from the report of the Settlement Officer of Bilaspur (Mr Chisholm), who says “ When fresh soil is broken up for rice cultivation, the ground can never be got into proper order during the first year, and the yield is less than in the old fields In the second year the outturn rises about one-eighth above that of the old fields and increases gradually year by year until the fifth, when it reaches 50 per cent above the old fields It then commences to decline, and in about another five years has subsided to the level of the old fields, and at that level it remains unchanged for ever Many fields, for instance, are believed to have been continuously cultivated for 150 years and more, and yet they are in no way inferior to land reclaimed from the jungle but 15 years ago.”

189 Dr Voelcker in his Report on the Improvement of Indian Agriculture states “ The possibility of soil exhaustion going on (in India) can only be determined by a careful study of what is removed from the land, and how far this is replaced by the forces of nature and by the artificial nourishment of manuring I have mentioned the deficiency of nitrogen which I observed in the case of several Indian soils, but it is worthy of note too, how very large a proportion of the crops annually grown, also of the trees and shrubs and even of the weeds, are leguminous in character, and may thus, if recent investigations be correct, possibly derive their nitrogen from the atmosphere ”

Dr Voelcker's  
views

190 A Settlement Officer of Basti wrote that “ fallows are unusual except in the poorest lands The people cannot afford to let their fields lie fallow, and the soil, annually replenished by the copious rain, does not seem to require a rest A theory was formerly held that in the Basti and Gorakhpur districts periods of high cultivation alternated with others in which the country relapsed into forest It was supposed that over-cropping gradually reduced the fertility of the land until it ceased to be worth cultivating, when it was abandoned and became overgrown with jungle In some of the reports of the last settlement the cause of the inferiority of some *tappas* was found in the fact that they were the longest inhabited, and gloomy predictions were made as to the future result of continuous cultivation These anticipations have not been realised The villages and tracts which were noted as first class at last settlement are at least as good as they were then Amroha, where I suppose the cultivation is oldest, is still, as it has always been, the richest pargana in the district In the ancient history of Basti there are periods no doubt when the once cultivated land reverted to forest, but the cause is to be sought in the calamities of war and famine ”

Views of a  
Settlement Officer of  
Basti

191 Mr W H Moreland, recently Director of Land Records and Agriculture in the United Provinces, sums up his views as follows —“ A poll of agriculturists would give a vast majority in favour of the view that fertility has decreased. To some extent this opinion is a psychological phenomenon, for the agriculturist's golden age lies always in the past, but its objective basis of truth depends on the period over which the comparison is made A large proportion of the land in the north of the provinces has within living memory been brought under the plough after a rest that probably lasted for some centuries It would be contrary to all experience that this land should maintain its virgin productivity under continued cropping Again, a large proportion of the province used to be thrown waste periodically owing to internal disorder in Oudh, this process went on until less than 60 years ago, and contemporary observers noted how fertile this land was when it again came under the plough [Thus, it is probably true for the greater part of the provinces, that the land is less productive now than it was at some particular period or periods, in the past The same is probably true of nearly every part of the world, and it involves the biggest of the problems that lie before the agriculturists in America and Australia But there is no evidence whatever, and I think there are no grounds to infer, that there has been any progressive decrease in fertility once the period of virgin-productivity has passed My own opinion is that in the old cultivated tracts the system of agriculture has been worked out so as to secure practically constant productivity on the whole and in the long run ”

The views of the  
Director of  
Agriculture, United  
Provinces

192 Mr G F Keatinge, recently Director of Agriculture of the Bombay Presidency, thinks that “ looking at the matter from a general point of view, the facts regarding the land in the Bombay Deccan and Southern Maratha country are briefly these Throughout the eighteenth century, cultivation in many parts was intermittent owing to the very unsettled state of the country,

The views of the  
Director of  
Agriculture,  
Bombay.

and it is probable that at many periods and in many localities no land except the very best was continuously cropped, so from this point of view there is no reason to suppose that the soil had any tendency to get 'exhausted' From about 1820 onwards, when settled conditions and security for property were established, a great increase in cultivation set in and land was rapidly taken up. A check occurred owing to a rapid fall in prices, but from 1840 to about 1870 was a period of great agricultural expansion and prosperity, and most of the good land was then taken up. In spite of the somewhat lean period which followed, the tendency to take up all land fit for cultivation continued, till in the present day practically all good land has been taken up and regularly cultivated and much land that is really unfit for cultivation is also cultivated. This latter class of land produces very poor crops and, of necessity, brings down the average outturn *per acre*, but *having regard to the profit obtained and on the capital employed for its cultivation*, its cultivation is not necessarily uneconomical. To sum up, I think we may safely assume that the general average of rainfall now is much the same as it was formerly, and that the cultivators are at least as hardworking and intelligent now as formerly. This being so, the rate of production in any class of land in the Deccan depends, in my opinion, mainly on the amount of capital employed in production."

The views of the  
Director of  
Agriculture,  
Madras

193 Mr M E Couchman, Director of Agriculture of Madras, believes that "when Madras came into British possession it was a rare thing for land to have any saleable value. The land changed hands from year to year, and had to be forced on the cultivators by the Government of the day. This is clear from Munro's correspondence. Under this system the fertility of the land must have been at its lowest, as there was no security to encourage improvements. At the present day both wet and dry lands have very high values, due to the security of tenure and increase of population, and it would no longer pay in most cases to cultivate the land unless it were improved. I believe, therefore, that there is every reason to suppose that, as a general rule, the fertility of agricultural land in this part of India is greater than formerly, and that the tendency is for the fertility to increase rather than diminish."

The views of the  
Director of  
Agriculture,  
Central Provinces

194 Mr C E Low, Director of Agriculture, Central Provinces, holds that "the general conclusion would be that over most of the province land has not been in regular cultivation for more than 150 years and even during that space it has been fallow at least one year in ten owing to wars and famines. That *rabi* is usually rotated and *khari* usually manured, but even where these favourable conditions do not exist there is no reason to suspect deterioration."

The views of  
Mr B C Bose of  
the Assam  
Agricultural  
Department

195 Mr B C Bose of the Agricultural Department of Assam says "The supply of cattle-dung, practically the only manure used in the province, has been greatly reduced, and what there is of it, is reserved principally for that comparatively small area which is devoted to commercial crops like jute, sugarcane, and tobacco, to the deprivation of the rice lands which consequently are less productive than before. Moreover, with the extension of cultivation, inferior descriptions of land which had been lying waste in former times were brought under the plough, causing a still further depression in the average yield of land. On the other hand there are conditions which counterbalance this effect to some extent, such as —

- (1) the greater variety of the crops grown,
- (2) the greater prevalence of the practice of double cropping which compels the soil to yield more than it would under single cropping,
- (3) the greater attention which has begun to be paid by the cultivators to the conservation and use of cattle-dung, and

- (4) the greater industry of the tillers of the soil who have to work harder than before in order to keep in line with the continually rising standard of living

But making all allowance for the compensating effects of these latter factors, there can be no doubt that in the permanently cultivated parts of the country where the soil is under continuous cultivation from year to year and gets no benefit either from river silt or from long periodical rest, the average outturn of land per acre is less now than it used to be (say) 50 or 100 years ago "

196 The records of experimental farms show that, even on plots which have not been manured, the outturn reaches a level of productive power below which it does not fall. These experiments have been corroborated by the famous experiments of a similar nature conducted at Rothamstead (England). Wheat was grown at Rothamstead on the same land for over sixty years and the conclusions were that land continuously cropped with wheat without manure reached a maximum stage of impoverishment in about twenty years, after which the annual outturn remains more or less stationary. It seems that in India also the so-called worn-out soils, having been under cultivation for a considerable period of years, have long since reached a stage of more or less maximum impoverishment, and that the average crop outturns in so far as they depend on the fertility of the soil have been in a more or less stationary condition for many years. Agricultural experts were consulted and their general opinion appears to be the same. They hold that the amount of nitrogen in Indian soils which is lost from cultivation, from drainage, etc., in each year is just balanced by nitrogen obtained, exclusive of that supplied by manures, from (1) rainfall, (2) seeds sown, (3) root material left in the ground and (4) that taken from the atmosphere and put in the soil by the agency of leguminous plants. Records of  
Agricultural farms.

197 The Agricultural Statistics of India contain a statement showing the average yield in pounds per acre of the principal cultivated crops, revised every five years with reference to the results of crop-cutting experiments made annually. The limitations to be placed on the results of these experiments are great, and the results can hardly be used either to prove or to disprove the alleged decrease in the productive power of the soil. The returns are merely examples of successive approximations to the truth. The crop-cutting experiments, however, during the quinquennium 1902-03 to 1906-07, were numerous, and perhaps more accurate than in any of the preceding periods. The following table shows the corrections made in the estimated yields of the important crops during the last three quinquennia in the different provinces in which they are cultivated to an appreciable extent. In all but two provinces they have justified a modification of the provincial averages accepted as correct, the changes being generally in an upward direction. In the case of Bombay, the provincial averages in the quinquennium 1902-03 to 1906-07, are the same as in the previous quinquennium. The experiments in this Presidency did not justify any revision. In the United Provinces, the yield of maize has been increased from 950 lbs to 1,050 lbs (quinquennium 1901-02 compared with the previous quinquennium), of sugarcane from 2,500 to 2,600 lbs, and of cotton from 150 to 160 lbs. In the Punjab, the average outturn of irrigated rice has increased from 1,126 to 1,183 lbs, irrigated wheat from 935 to 994 lbs, and irrigated and non-irrigated barley from 903 to 1,053 lbs and from 520 to 652 lbs respectively. In Madras, during the quinquennium 1902-03 to 1906-07, the results of 3,348 experiments were worked upon as compared with those of 2,691 experiments in the previous quinquennium. The average yields of the majority of the crops in Madras have been raised, especially in the case of sugarcane, the outturn of which has increased from 5,127 to 6,089 lbs. The figures for rice, bajra, and ragi (irrigated and unirrigated) are also high and the only decreases are in jowar and jingli (unirrigated). Statistics of  
average yield per  
acre

198 In this enquiry we are concerned only with the question whether there has been any decrease in the fertility during the period under enquiry, and, on the whole, it seems that there has been no such decrease. Extension of cultivation has probably exercised different influences on the average outturns of the various crops in different parts of India. Where inferior lands have been taken up for cultivation, or the better class of lands have been cultivated with the more paying commercial crops and inferior lands have been substituted for the cultivation of foodgrains, the average outturn of foodgrains has undoubtedly decreased. On the other hand, the extension of irrigation, the growth of the practice of double cropping, and the rotation of crops have undoubtedly raised the average outturn of some crops in some of the provinces.

*Statement showing estimated yields of important crops in different circles according to crop cutting experiments carried out in each of the quinquennia ending with 1896-97, 1901-02 and 1906-07*

	IRRIGATED LBS PER ACRE			UNIRRIGATED LBS PER ACRE			BOTH LBS PER ACRE		
	1896 97	1901 02	1906 07	1896 97	1901 02	1906 07	1896 97	1901 02	1906 07
<b>WHEAT</b>									
United Provinces of Agra and Oudh	980	1,250	1,250	803	800	850	890	1,050	1,050
Punjab	917	935	994	576	642	619	728	770	816
North West Frontier		883	842		563	543		669	618
Sind	994	1,066	1,229						
Bombay	1,250		1,250	510		510	575		575
Central Provinces	925			570			600		600
Berar				754	687				
Bihar—Shahabad		1,034	754		1,065	670			
Patna		729			749				
<b>RICE (HUSKED)</b>									
Assam				834	910				
United Provinces of Agra and Oudh	1,018	1,050	1,050	619	800	800	625	850	850
Punjab	1,167	1,126	1,183	266	734	771	775	979	1,060
North West Frontier		843	1,202						
Bombay				1,230		1,230			
Central Provinces							670		579
Madras		1,061	1,115		866	926			
Bengal—									
Bachergunge				1,100					
Winter rice, transplanted		1,438			1,214				
Winter rice, broad cast					2,057				
Autumn rice, transplanted									1,344
Autumn rice, broad cast									
Murshidabad		994	908	1,100					
Winter rice, transplanted					1,265	1,024			
Winter rice, broad cast					608	899			
Autumn rice, transplanted		667			614				
Autumn rice, broad cast					656	744			
Bihar—									
Shahabad—									
Winter rice, transplanted		822	804		796	701			
Winter rice, broad cast		941	829			464			
Autumn rice, transplanted									
Autumn rice, broad cast									
<b>FOUR</b>									
United Provinces of Agra and Oudh				174	600	650			
Punjab	595	552	561	371	388	447	181	600	170
North West Frontier					602	326		426	478
Sind	853	1,798	1,238					602	
Bombay	1,540		1,550	670		670			
Central Provinces				570		638			
Berar				815	887				
Bihar		1,065	1,118		679	647			

Statement showing estimated yields of important crops in different circles according to crop cutting experiments carried out in each of the quinquenniums ending with 1896-97, 1901-02 and 1906-07

	IRRIGATED LBS PER ACRE			UNIRRIGATED LBS PER ACRE			BOTH LBS PER ACRE		
	1896 97	1901 02	1906 07	1896 97	1901 02	1906 07	1896 97	1901 02	1906 07
<b>RAGI</b>									
Bombay	1,400		1,400	1,060		1,060			
Madras		1,296	1,405		798	955			
<b>GRAM</b>									
Bihar—									
Shahabad		1,088	745		1 195	666			
Bengal—									
Murshudabad		1,202			739	626			
United Provinces of Agra and Oudh	719	950	950	639	800	800	642	800	800
Punjab	755	835	884	522	634	656	549	650	701
North West Frontier		632	884		406	438		407	439
Sind	478	469	469						
Bombay	1,200		1,200	410		410			
Central Provinces				550		525			
Berar				695	662	Inclu ded in C P			
<b>RAPESEED OR MUSTARD</b>									
Bengal								492	492
United Provinces of Agra and Oudh					600	600	450	600	
Punjab	439	380	404	373	330	205	383	331	254
North West Frontier		450	516		381	398		388	407
Sind	513	653	590						
Bombay				625		625			
<b>COTTON (CLEANED)</b>									
United Provinces of Agra and Oudh	169	190	220	128	130	130	135	150	160
Punjab	100	109	78	57	80	64	83	103	74
North West Frontier		183	169		72	73		142	142
Sind	147	308	308						
Bombay				100		100			
Central Provinces				75		100			
Berar				137	144	In cluded in C P			
Madras			66			44			



## CHAPTER VII.

## Causes of the rise of prices peculiar to India—other causes

## INCREASED DEMAND FOR COMMODITIES IN INDIA

199 There can be no doubt that there has been a large increase in the demand for all kinds of commodities on the part of consumers in India. Statistics showing the average quantity consumed per head of the population have sometimes been put forward to prove this. These figures, however, are so largely conjectural that they can hardly be of any use whatsoever. Nevertheless, all experienced officers in the various parts of India, whom we consulted during our tours, were agreed that there has been an increased demand not only for luxuries but also for the finer qualities of foodgrains at the expense of the cheaper kinds. The great development, on modern lines, of industries in India has been followed by an increase in the number of the industrial labourers, and this growth has necessarily involved an increased consumption of all kinds of food-stuffs in industrial centres. In the other parts of the country also, this advance in the standard of living has played an important part in stimulating consumption.

200 A noticeable change has taken place in the style of living of all classes of society, upper, middle and lower, and the demand for all kinds of the necessities of civilised existence in regard to food, clothing, housing, education and society has increased, ample evidence of which we received in our tours through the different parts of India. Among the upper and middle classes, there was visible everywhere a tendency for a gradual assimilation of the western style of living so far as is consistent with local conditions. The change in the style and material of clothing, the increased demand for furniture and better housing accommodation, even with gardens attached, the wider use of stationery, bicycles and typewriters, the increase of correspondence through the post office and the telegraph, the huge expansion of passenger traffic on railways are but some instances of this higher standard of living. It is, however, difficult to distinguish between cause and effect in dealing with this question. The advance in the style of living has undoubtedly been responsible to some extent, for the rise in the prices of several classes of articles, but, on the other hand, rise of prices has also been instrumental in raising the standard of living, specially among the lower classes of the population and, thereby, in stimulating the consumption of a number of articles. The spread of education has brought about a decided advance in the standard of living among the educated classes. In the middle classes of Indian society, the general increase in desires in such matters as food, housing, clothing, education and society has been very marked, while among the wealthy there has been a growth in extravagant tastes in every direction, this has resulted in an increased demand for all classes of luxuries. Witnesses were practically unanimous in saying that the luxuries of the past have become the necessities of to-day. The change in the standard of living among these two classes has been progressing for a long time past and cannot be said to have followed from the rise of price the improved style of living having, on the other hand, stimulated the demand for commodities can be held to have contributed to the rise. This cannot, however, be said about the lower classes of the population. In that class also, there has, no doubt, been a distinct improvement in the style of living. It is not uncommon for them now to use shoes of European pattern, clothing of a finer texture, shirts, coats, jerseys, pagris and caps, umbrellas, copper and brass utensils, lanterns, etc. They are also able to afford wheat flour and the other better kinds of foodgrains, to indulge in tea and coffee, and in many cases mud houses and thatched roofs are giving place to masonry buildings and corrugated iron or, at least tiled roofs. But it is difficult

Large increase in  
the demand for  
commodities

Higher standard of  
living amongst all  
classes

to say whether this improvement is the cause or the effect of the higher level of prices. These two act and react upon each other, and although the increased prices of their produce or their increased wages might be said to have enabled them to raise their standard of living, this improvement has, on the other hand, created or stimulated demand for several classes of commodities including miscellaneous articles of food like fish, vegetables, ghee, meat, tea and coffee, hides and skins, metals and building materials, and thus helped to raise the general price-level.

201 The improved standard of living among the lower classes, as a cause of the rise of prices, has manifested itself largely in the tracts which grow jute and cotton and wheat. In Chapter IV it has been shown that the rise in the price-level in Bengal Northern and Eastern, has been exceptionally high, though the circle had the good fortune not to have shared in any of the calamities of the season which befel other parts of the country in the last decade. The rise here is undoubtedly the effect of the substitution of the cultivation of jute for that of foodgrains and of the higher standard of living, brought about by a large increase in the profits made from the cultivation of jute. Thus it was estimated that, in 1906, the jute crop in Bengal, of which the largest share is grown in the districts comprised in the Northern and Eastern circle, fetched the enormous sum of forty crores of rupees, and that of this, fifteen and a half crores were clear profit. This enabled all, who shared in the profit to raise their standard of living by purchasing more of the food they relished most, *e.g.*, rice, fish, vegetables, ghee, meat, etc., and at the same time placed them in a position to pay more for such food. This might also have led as has been suggested by some, to the retention of rice stocks, which would otherwise have come on to the market, and it is this withholding of stocks which also probably had a share in causing the exceptional rise in the price-level of the circle in the quinquennium 1905-09.

Large improvement in the standard of living in particular areas

202 The changes in the standard of living will be analysed in detail in dealing with the last term of reference, namely, the effects of the change in prices on the country as a whole and on the various sections of the community. It is, however, clear that with the rapid growth in desires of all classes of people, especially during the last decade, there has been a greater demand for all kinds of commodities.

#### INCREASED COST OF PRODUCTION

203 It was alleged by many witnesses that an important cause of the recent rise in the prices of Indian produce was the increased cost of cultivation. Owing to an increase in the cost of seeds and manure, in the cost and maintenance of plough-cattle and in wages, the cost of cultivation has undoubtedly increased. But to say that this has caused an increase in the prices of agricultural products is, I think, a case of mistaking the cause for effect. High wages, and more especially, high prices of land, in recent years are rather effects than causes of the high prices of farm produce. If the price of Indian products were to rise still higher and land for cultivation were to become still more desirable, there would naturally be a rise in the price of land. As Professor Carter, of the Harvard University, has well said —

Increased cost of production not a cause but an effect

“ There is no reason why land should command a high price for farming purposes, except a rise in the prices of farm products or a fall in the cost of cultivating the land. To say that the farm products are high because land values are high is quite as foolish as saying a tree is tall because its shadow is long ”

204 It is true that just as a rise of prices leads to a rise in the cost of cultivation so does a rise in the cost of cultivation in its turn ordinarily react on the price-level and cause it to rise. The circumstances of India are, however, exceptional in this matter. The Indian cultivator is generally uneducated and incapable of forming any estimate of his cost of cultivation. Himself and the whole of his family are generally employed either on the fields or in tending his cattle, and he hardly ever realises what he would have to pay if he had to employ hired labour for his work. He is content so long as his fields and his cattle bring him the bare means of subsistence and enable him to pay the rent of his lands. His lands have

Cost of production has not much influence on prices in India

a special interest to him and when he finds that the yield of his fields is not sufficient he does not hesitate to run into debt to provide himself with his necessities, the most important of which are the means of cultivating his lands to which he sticks as long as he is not compelled by his creditors to part with them. Thus, in India, it is not the producer who fixes the price of his produce after calculating the cost of production, but it is the competition among the purchasers, or, in other words, the demand, which regulates the price. The cost of cultivation has not, therefore, much influence on prices in India.

#### EXPANSION OF COMMUNICATIONS

205 One of the most important factors that have raised the general price-level in India is the expansion of communications, both railways and roads. The next two tables show the growth of the different railway systems in India during the years 1890 to 1912 and the mileage of railways and metalled roads in the different circles at intervals of every five years. There has been a more or less rapid growth of both railways and roads in almost every circle, the expansion having been greatest in Assam, Agra Provinces East, Agra Provinces North and West, Punjab East and in the two circles of Bengal. In most of these circles the rise in the general price-level has been very high. The total mileage of railways in all India has been more than doubled during the period. Before the advent of railways, in remote areas, whenever production was plentiful, prices went down very low because of the difficulty and, in many cases, the impossibility of transporting it profitably to a place where prices were higher. On the other hand, whenever the crops failed, prices rose exceptionally high owing to the difficulty of importing supplies from outside. Railways have now linked up different parts of the country and have constituted India into, as it were, one market. The deficiency in one part of India now makes itself felt all over the country within a very short space of time, and is made good at once, the rise in the price-level being comparatively small. Every village and every district which is connected by rail are no longer self-supporting units. The powerful and ubiquitous agency of organised commerce has taken the place of the former system, the isolated and self-sufficing village. It was most interesting in our local enquiries to observe how a general levelling of prices was taking place throughout the areas intersected by railways and also how local prices are now-a-days greatly affected by prices in distant parts of the country.

*Statement showing the Mileage of the different Railways at the end of each of the years 1890—1912*

Year	East Indian Rail way	Eastern Bengal State Railway	Benial Nagpur Railway	Bengal and North Western Railway	Guth and Rohil khund Railway	North Western State Railway	Great Indian Penin sular Railway and Midland Railway	Bombay Baroda and Central India Railway	Madras and South ern Mahratta Railway	South Indian Rail way	Other Railways	Total	Average annual in crease for succe sive quinquennial periods	Index numbers
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
1890	1,633	897	586	719	684	2,565	2,232	2,215	2,010	1,010	1,282	15,865		93
1891	1,701	908	534	736	684	2,480	2,232	2,316	2,119	1,071	1,521	16,696		97
1892	1,795	944	834	748	684	2,603	2,232	2,316	2,343	1,071	1,576	17,148		100
1893	1,797	966	901	748	732	2,605	2,232	2,359	2,655	1,071	1,762	17,826		104
1894	1,841	967	990	748	788	2,605	2,232	2,249	2,655	1,126	1,787	18,188		106
1895	1,877	967	1,065	748	788	2,642	2,132	2,449	2,655	1,126	2,007	18,756		109
1896	1,877	970	1,139	766	838	2,850	2,433	2,509	2,663	1,126	2,164	19,365		113
1897	1,885	974	1,181	779	883	3,370	2,433	2,590	2,667	1,126	2,363	20,251		118
1898	1,893	1,014	1,392	872	1,021	3,370	2,481	2,590	2,822	1,145	2,446	21,046		123
1899	1,972	1,098	1,511	1,089	1,023	3,569	2,749	2,761	2,910	1,171	2,720	22,606		132
1900	2,101	1,144	1,630	1,141	1,112	3,626	2,819	2,755	2,945	1,172	3,165	23,610		138
1901	2,101	1,175	1,637	1,168	1,112	3,756	2,819	2,755	2,945	1,201	3,405	24,082		140
1902	2,187	1,195	1,637	1,168	1,144	3,786	2,819	2,752	2,945	1,405	3,507	24,573		141
1903	2,187	1,194	1,856	1,255	1,205	3,894	2,827	2,837	2,945	1,477	3,760	25,452		148
1904	2,187	1,194	1,919	1,294	1,253	3,956	2,941	2,921	2,945	1,539	3,759	25,956		151
1905	2,187	1,204	2,049	1,302	1,272	4,116	3,001	3,054	3,022	1,565	3,803	26,805		156
1906	2,187	1,204	2,049	1,302	1,272	4,325	3,010	3,045	3,027	1,650	3,922	27,503		161
1907	2,187	1,204	2,049	1,302	1,272	4,325	3,010	3,045	3,027	1,650	3,922	27,503		161
1908	2,187	1,204	2,049	1,302	1,272	4,325	3,010	3,045	3,027	1,650	3,922	27,503		161
1909	2,187	1,204	2,049	1,302	1,272	4,325	3,010	3,045	3,027	1,650	3,922	27,503		161
1910	2,187	1,204	2,049	1,302	1,272	4,325	3,010	3,045	3,027	1,650	3,922	27,503		161
1911	2,187	1,204	2,049	1,302	1,272	4,325	3,010	3,045	3,027	1,650	3,922	27,503		161
1912	2,187	1,204	2,049	1,302	1,272	4,325	3,010	3,045	3,027	1,650	3,922	27,503		161

Statement showing the growth of Railways and Metalled Roads in different circles from 1890—1912

[In hundreds of miles]

	GROWTH OF RAILWAYS						GROWTH OF METALLED ROADS					
	1890	1895	1900	1905	1910	1912	1890	1895	1900	1905	1910	1912
Assam	1	1	1	7	9	9	1	1	1	1	2	2
Bengal N and F	4	5	8	9	11	11	2	3	3	3	4	4
S and W	7	9	13	15	16	17	30	31	33	33	36	38
Chota Nagpur	2	2	3	1	6	7	5	5	5	5	7	8
Bihar	11	12	15	16	19	20	14	14	15	17	18	18
Agra Provinces East	3	3	7	8	10	10	12	12	13	14	15	15
Bundelkhand	3	3	3	3	3	3	5	6	7	8	9	9
Agra Provinces N and W	20	22	25	28	33	37	41	42	45	50	54	57
including Oudh												
Punjab East	11	12	16	18	21	25	20	20	19	21	26	27
West	5	5	6	8	8	8	6	6	7	11	12	12
Sind	1	1	8	0	9	10			1	1	1	1
Cuprat	3	3	1	1	1	4	5	5	5	6	8	8
Konkan	2	2	2	2	2	2	5	7	8	9	15	16
Deccan	12	12	11	11	15	15	17	20	24	32	30	40
Berar	2	2	2	2	2	2	3	3	4	5	7	7
Central Provinces	10	10	12	11	17	18	13	14	18	22	28	31
Madras N and F	1	6	8	8	9	9	34	36	38	42	48	49
North	5	7	7	8	8	8	36	39	39	37	38	36
South	12	11	15	17	17	18	86	89	91	92	99	109
West	1	1	1	2	3	3	29	34	30	31	32	32
TOTAL	11,0	13,6	17,3	19,6	22,5	23,6	36,4	38,7	40,6	44,0	49,8	51,9

206 The large exports of rice from Burma to Calcutta, Bombay and Madras, during the quinquennium of exceptionally high prices, viz, 1905—09, illustrate how impossible it is for a province with abundance of food to border on one with a population in dire want of supplies. The effect of export from district to district is, in many cases, as already noted, to raise prices. Mangoes, for example, used to sell in the landlocked areas of the Konkan at one pice per basket, but, owing to communication with Bombay, they have become very dear in the Konkan itself. The next table shows the enormous growth of railway traffic in India.

Statement showing the development of Railway Traffic in India (including Burma), 1890—1911

Year	PASSENGER TRAFFIC										GOODS TRAFFIC															
	Total mile opened		TOTAL NUMBER OF PASSENGERS		PASSENGER MILEAGE		Average miles carried		Total earnings in lakhs of rupees		Average earnings per passenger in pice		Average rate charged per mile in pice		QUANTITY CARRIED		TON MILEAGE		Average miles carried		Total earnings in lakhs of rupees		Average earnings per ton in rupees		Average rate charged per ton per mile, in pice	
	In millions	Index numbers	In millions	Index numbers	In millions	Index numbers							In millions of tons	Index numbers	In millions	Index numbers										
1890	16,101	111	88	4,787	89	11 06	63	105 32	2 51	23	83	3,509	82	155 18	1 30	5 7467	7 11									
1891	17,283	123	95	5,226	98	42 51	69	107 22	2 52	26	96	4 139	103	169 71	1 56	5 9666	6 76									
1892	17,769	127	99	5,265	98	41 33	69	104 17	2 52	26	96	4,234	99	160 77	1 48	5 6104	6 70									
1893	18,459	136	107	5 602	105	41 31	73	103 36	2 50	29	106	4 426	103	153 44	1 52	5 2748	6 60									
1894	18,840	146	113	5,890	110	40 42	76	99 81	2 47	33	110	4,859	113	148 85	1 62	4 9773	6 42									
1895	10,467	153	119	6,181	116	40 40	80	100 61	2 49	34	123	4,941	116	146 94	1 64	4 8677	6 36									
1896	20,209	160	124	6,411	120	42 38	82	98 97	2 45	32	119	4,588	107	141 31	1 54	4 7473	6 40									
1897	21,115	161	117	5 921	111	39 34	76	97 17	2 47	31	124	4,796	112	141 38	1 59	4 6833	6 36									
1898	22,021	172	117	5,826	109	38 14	76	96 10	2 50	30	130	5,712	133	160 25	1 78	5 0080	6 00									
1899	23,057	162	125	6,101	116	38 28	81	96 09	2 51	40	145	6,161	144	155 07	1 92	4 8209	5 98									
1900	24,752	176	137	7,068	132	40 09	90	97 47	2 51	43	157	6,650	155	155 02	2 04	4 7475	5 88									
1901	25,361	195	161	7,872	147	40 42	1 01	99 29	2 48	43	159	7 066	165	162 85	2 12	4 8941	5 77									
1902	25,931	197	162	7,872	147	40 13	1 03	100 31	2 51	46	167	7,178	167	157 62	2 12	4 6630	5 68									
1903	26,956	210	163	8,388	157	39 00	1 10	100 29	2 51	48	175	7,632	178	160 05	2 21	4 7016	5 64									
1904	27,565	227	176	9 007	168	39 66	1 18	99 44	2 51	52	191	8,072	209	172 37	2 52	4 8301	5 39									
1905	28,295	248	192	9 900	185	39 90	1 27	98 55	2 47	55	201	9 041	211	176 47	2 62	4 7704	5 10									
1906	20,080	271	210	10,688	200	39 13	1 37	96 92	2 46	50	215	9 771	228	165 97	2 76	4 6878	5 12									
1907	20,957	306	237	11,841	221	38 71	1 50	94 41	2 44	62	227	10,841	252	174 68	2 92	4 7000	5 18									
1908	30,576	321	249	12,103	226	37 68	1 51	91 87	2 44	62	228	9 926	231	159 07	2 63	4 2181	5 00									
1909	31,490	320	255	12,365	231	37 51	1 57	91 28	2 43	61	223	9 340	218	153 37	2 81	4 6180	5 78									
1910	32,090	372	288	13,432	251	36 15	1 71	88 46	2 45	66	240	12,009	282	194 33	3 04	4 6367	4 83									
1911	32,839	390	302	14,373	268	36 87	1 85	91 16	2 47	71	261	13,358	311	187 44	3 20	4 6210	4 73									

\* Average of 1890—1894 = 100

Sir Reginald  
Craddock, K.C.S.I.,  
no communications  
in the Central  
Provinces

207 Sir Reginald Craddock has shown how the effect of increased communications with the outside world has affected prices in the Central Provinces. "The policy of road-making initiated by Sir R. Temple in 1862 was the first factor in bringing about a rise in the prices of agricultural produce, but the quickening of trade, which this policy would have brought about, would necessarily have been a gradual process, had it not been suddenly stimulated by the effect of the American War of Secession in 1862. The sudden demand for raw cotton to supply the Lancashire Mills caused the price of that commodity to rise by leaps and bounds. The acreage placed under the crop expanded enormously, and the prices of grain and oilseeds at once rose in sympathy. Later on came a reaction, but the export trade had received an impetus which was never wholly withdrawn. The opening of the railway to Nagpur in 1867, the rise of the cotton industry ten years later, the simultaneous opening out of markets in other parts of India, the further extensions of the Chhattisgarh line in 1882, and of the Bengal-Nagpur line in 1889, have all contributed to an increased demand for the produce of the country, and with it to an increased purchasing power of the owners of the land, the price of every kind of agricultural product having steadily risen. Now and then there have been fluctuations, a dull foreign trade or plentiful harvests have caused a temporary and partial fall, but succeeding failures or reviving exports have again come into play, until rates, which thirty or forty years ago would have been regarded as famine prices, are now looked upon as the normal rates which every agricultural producer looks to realise. The history of prices, forming at once the most important factor in the prosperity of the agricultural classes and the main determinant of the ratio of rent enhancement, divides itself into two great periods, that prior to and including the year 1862 and that from 1863 onwards."

Sir Frederick  
Nicholson, K.C.I.E.,  
on communications  
in Madras

208 Sir Frederick Nicholson said as regards the Coimbatore district of the Madras Presidency: "From various reports it is known that in 1800 there were practically no roads, but merely tracks, there was not a cart in the district, and what traffic existed was carried on by pack bullocks, and by ponies and by basket boats on the Cauvery. The result was not only that all imported commodities were dear, but export trade was insignificant, and only in valuable articles such as ghee, spices and so forth. Grain could not be moved, so that prices depended on local scarcity or abundance, with the result that substantial ryots were no worse off in bad years than in good, for storage was a necessity, so that deficient crops were supplemented from the surplus of good years, which then fetched very high prices, while in good years, especially if consecutive, the markets were glutted, prices fell very heavily, and the ryots who were compelled to sell in order to meet the Government and other demands were ruined by their own superabundance. This reproach remained for many years, so that average prices between 1849-53 were lower than at any previous time, while in times of famine, as in 1824 and 1837, the difference in prices between famine and non-famine districts was very serious. In 1887, there were in Coimbatore, above 1,500 miles of metalled or gravelled roads, besides numerous cross-roads and village lanes and 147 miles of railway—Madras and South Indian. The result of this improvement is an immense internal traffic between the various trade centres, such as weekly markets and towns, and a considerable import and export trade in which thousands of carts take part with railways. Every village has several, and every town hundreds of carts which are extensively built in many places. The value of the rail-borne traffic has not been ascertained, but one or two facts may be noted—(1) that in the famine of 1877 grain was poured by thousands of tons, while the price of rice at the height of famine differed from that at Tanjore, whence it was supplied, at only about 3 l's per rupce, (2) that private trade has been so stimulated by the railway that at the least hint of scarcity in any other district or province, grain is at once moved, e.g., in the early months of 1884, scarcity seemed imminent in Northern India, and the Coimbatore Railway Stations were crammed with grain en route northwards;

(3) that trades such as the considerable tanning industry, coffee growing, etc., have been begotten by the railway, which carries the produce cheaply to the coast, (4) that upon the making of the railway, prices, to the great advantage of the ryot, speedily doubled owing to export facilities, with this great rise in grain prices, land prices also rose, so that land, especially near the railways, is now worth from 6 to 10 times its value when the Madras Railway was made, (5) that the production of valuable crops has been greatly stimulated, tobacco, which has long been grown largely owing to the West Coast demand, being excepted. It is to be noted that railways cannot yet compete with carts for local traffic of, say, 30 miles' run, owing to the necessary delay in getting trains and the low rates at which ryots can afford to hire out their carts during the non-cultivation season."

209 Mr W H Moreland has pointed out that the same process is at work in Northern India. In his Decennial Report on the material condition of the people of the United Provinces of Agra and Oudh, he shows that the mileage of railways opened for public traffic has risen in ten years by 32 per cent, while the total traffic has increased by as much as 75 per cent. "The development of the transport system," he remarks, "has resulted in the continuance of the process, noticed ten years ago, of bringing the standard of prices in the remoter district close to that of the centre of trade, particularly speaking, it may be said that almost every district in the Provinces is now in such close relation with the great wholesale markets that no lasting depression of prices below the ordinary level is possible in any locality. This effect is not confined to the Provinces, as the whole of India may now almost be described as one market. In 1889 and 1900, for instance, the range of prices bore no relation to the market conditions of the Provinces taken by themselves."

210 At the last meeting of the economic section of the British Association (1912), Sir Francis Webster in a striking paper on "A consideration of some of the causes affecting prices and wages during the last 40 years" pointed out the great increase in communications between distant countries which resulted in the linking up of markets. Wagons and road traffic for long distances were everywhere giving place to railways, and ships to steamers. He says "Supplies of all kinds, instead of coming forward slowly and irregularly by road and sailer, were being delivered more and more rapidly and certainly by rail and steamer. The extension of electric communication added strength to the new conditions. For a number of years the effect was great and continuing. Forty years ago, in our own flax and hemp trade, we got none of the previous year's crop till May and June of the succeeding year. The trade had to depend on the fibre grown the year before. Now the new crop begins to come in the November of the year in which it is grown. By the months of May and June much of it is worked up, and the greater part of it is in spinners' hands."

#### THE LOWERING OF THE DIRECT AND INDIRECT COST OF TRANSPORT

211 The lowering of the direct and indirect cost of transport in India itself and between the Indian ports and foreign countries is another of the most important causes, which has raised the general price level in India. It has already been explained that statistics of railway freights for selected articles and for selected leads on the principal railways have been compiled and are published with the statistics appended to this report. The accompanying table gives an abstract, showing the index numbers of these rates of freights in different years as compared with the standard period, 1890—94. A glance at this statement will show how very large the reduction in freight has been in the case of coal and tea, being as much as 40 per cent, while in the case of jute, jute manufactures and sugar it has been 27 to 31 per cent. The smallest reduction has been in grains and pulses and raw cotton, but here also it has amounted to 20 per cent. This general lowering of the rates of freight has tended to make prices in upland districts approximate more and more to those prevailing in central markets and the seaport towns, while prices at the latter stations have continued in a

higher level in sympathy with the prices in foreign countries. Thus, if the price of wheat is taken into consideration, a rise in Mark Lane price would raise the price of wheat at Karachi, where the rise would be greater, if there is simultaneously a fall in the freight from Karachi to London. The rise in the price at Karachi, again, would cause a corresponding increase in the prices prevailing in the interior of the Punjab, where there would be a further enhancement if the Railway were to reduce the rates of freight from the Punjab to the Karachi port. Mark Lane price of wheat being the dominating factor for the price of wheat at Karachi, a reduction in the rates of freight would advance prices at all stations from which the wheat to be exported from Karachi has to be obtained. It may be argued that the increased exports, due to the lowering of freights, would cause an increased supply in the foreign markets, and thereby tend to lower prices in those markets, which again would react on the prices of this country. The volume of the additional supply, due to increased exports, would, however, be very small compared with the total supply in the foreign markets, and its influence on prices would be inappreciable. The effect of a reduction of freights would, on the whole, be to raise prices.

*Statement showing the growth of goods traffic on railways and the decrease in freights*

Years.	GOODS TRAFFIC			INDEX NUMBERS OF FREIGHTS								
	Quantity carried (In millions)	Ton mileage (In millions of tons)	Index numbers	Grains and pulses	Sugars	Tea	Cotton, raw	Cotton piece goods	Jute	Gunny bags and cloth	Coal and coke	General average
1890	23	3,509	82	103	102	103	104	103	101	102	109	103
1891	26	4,430	103	102	102	101	103	103	102	102	109	103
1892	26	4,234	99	100	100	98	98	99	99	100	95	99
1893	29	4,426	103	98	98	99	98	98	99	100	94	98
1894	33	4,859	113	97	98	99	97	97	99	96	93	97
1895	34	4,941	115	98	97	100	95	96	94	96	93	96
1896	32	4,588	107	96	96	97	92	96	94	96	92	95
1897	34	4,796	112	92	94	94	91	94	87	94	91	93
1898	36	5,712	133	91	89	89	89	93	90	94	91	92
1899	40	6,164	144	89	84	88	91	89	83	87	90	89
1900	43	6,650	155	90	84	87	91	87	82	88	89	88
1901	43	7,066	165	88	82	84	91	85	80	88	89	86
1902	46	7,178	167	87	80	79	90	83	81	87	83	85
1903	48	7,632	178	85	76	78	88	82	80	86	77	83
1904	52	8,972	209	84	75	77	84	82	80	83	76	82
1905	55	9,041	211	84	73	77	84	81	79	83	74	80
1906	59	9,771	228	84	74	76	82	79	82	82	74	78
1907	62	10,841	232	82	73	74	81	78	80	77	59	75
1908	62	9,926	231	81	72	69	80	76	75	76	59	73
1909	61	9,340	218	80	70	67	80	76	74	76	59	73
1910	66	12,093	282	80	69	66	80	75	74	76	60	72
1911	71	13,358	311	80	69	64	82	75	73	76	60	72
1912				80	69	62	80	75	73	75	60	72

Maritime freights

212 Index numbers of outward and inward maritime freights have also been calculated for the same basic period, namely, 1890—94, the averages of these for the different quinquenniums are shown below —

	1890 to 1894	1895 to 1899	1900 to 1904	1905 to 1909	1910	1911	1912
Calcutta to London, Liverpool, etc	100	84	93	89	99	105	129
Bombay to London and Liverpool	100	81	84	73	87	108	143
Madras to London	100	87	78	75	84	82	100
Karachi to Liverpool	100	87	90	82	88	94	117
AVERAGE	100	84	88	83	92	99	123



213 In these freights also, there was a large fall in the quinquennium 1905—09, but since then they have been rising again and at the present moment are considerably higher than in the basic period. Freights always vary according to the demand, and in years of famine when there is a heavy fall in the exports from India, the demand for outward freight is slack and there is, consequently, a reduction in the rates.

#### IMPROVEMENT IN GENERAL MONETARY AND BANKING FACILITIES AND AN INCREASE IN CREDIT

214 There has been a great improvement in banking and monetary facilities during the period under enquiry and it has been specially marked since 1905. The extended use of credit in India has undoubtedly had an important effect on prices. The evidence from statistics regarding the growth of banking in India is almost astounding. The following statement shows the growth of private deposits in the Presidency and other banks and their capital and reserves for each year from 1890, and these figures have been converted to percentages of the standard period (1890—94). The figures relate to the three Presidency Banks of Bengal, Bombay, and Madras for the whole period and for the following joint-stock Banks whose head offices are located in India and the Exchange Banks whose head offices are located abroad, from the years (noted against each) from which figures for the respective banks are available —

Growth of Bank capital and deposits

##### Indian Joint-stock Banks—

Allahabad Bank, Ld	1890
Bank of Upper India, Ld	1890
Alliance Bank of Simla, Ld	1890
Oudh Commercial Bank, Ld	1890
Commercial Bank of India, Ld (now defunct)	1890—1907
Deccan Bank, Ld	1891—1900
Punjab Banking Co., Ld	1891
Bank of Calcutta, Ld (now defunct)	1895—1905
Punjab National Bank, Ld	1895
Bank of Burma, Ld	1905
Bank of India, Ld	1906
Bank of Rangoon, Ld	1906
Indian Specie Bank, Ld	1907
Indian Bank, Ld	1907
Bengal National Bank, Ld	1908
Bangalore Bank, Ld	1908
People's Bank of India, Ld	1908
Bombay Merchants' Bank, Ld	1909
Kayastha Trading and Banking Corporation, Ld	1910

##### Exchange Banks—

Chartered Bank of India, Australia and China	1890
Delhi and London Bank	1890
Hongkong and Shanghai Banking Corporation	1890
National Bank of India	1890
Comptoir National d'Escompte de Paris	1890
Mercantile Bank of India	1893
Yokohama Specie Bank	1894
Deutsch-Asiatische Bank	1897
International Banking Corporation	1903
Russo-Asiatic Bank (formerly Russo-Chinese Bank)	1903
Eastern Bank	1910

215 These tables do not include such banks of deposit as do not possess a minimum of five lakhs of rupees of paid-up capital and reserve fund combined, nor the numerous money-lending and pawn-broking establishments which are at present registered annually as 'banks' under the Indian Companies' Act. It may be noted that the paid-up share capital of the banks, whose head offices are located in India and which are exclusively Indian, i.e., all banks included in



the table, excluding Exchange Banks, has increased by 43·3 per cent during the decade ending 1911. If the reserves are added to the capital, the increase in both combined is 55·7 per cent in the same period. The capital and reserves of the joint-stock Banks, apart from the Presidency Banks, have increased in the same decade by 192 per cent, the increase in capital being 215 per cent. and in the reserves 150 per cent.

*Growth of capital and private deposits in Banks in India (Presidency and other Banks)*

[In lakhs of Rupees]

Years	Total capital and reserves of Indian Banks	PRIVATE DEPOSITS				Grand Total.	INDEX NUMBERS					Grand Total.
		Presi- dency Banks	Ex- change Banks	Other Banks	Total.		Total capital and reserves	PRIVATE DEPOSITS				
								Presi- dency Banks	Ex- change Banks	Other Banks	Total	
1890	4.99	14.76	7.54	2.71	25.01	30.00	96	110	89	73	98	97
1891	5.05	14.13	8.63	3.46	26.22	31.27	98	106	101	93	102	102
1892	5.12	12.67	8.53	3.87	25.07	30.19	99	95	100	104	98	98
1893	5.27	12.10	8.13	4.08	24.31	29.58	102	91	95	109	95	96
1894	5.43	13.13	9.76	4.50	27.39	32.82	105	98	115	121	107	107
AVERAGE 1890-94	5.17	13.35	8.52	3.72	25.60	30.77	100	100	100	100	100	100
1895	5.85	13.12	10.31	5.66	29.09	34.94	113	98	121	152	114	114
1896	6.09	12.92	10.15	5.38	28.45	34.54	118	97	119	145	111	112
1897	6.51	10.16	9.09	6.81	26.06	32.57	126	76	107	183	102	106
1898	6.89	10.78	9.49	6.89	27.16	34.05	133	81	111	185	106	111
1899	6.94	11.41	10.70	7.43	29.54	36.48	134	85	126	200	115	116
AVERAGE 1895-99	6.46	11.65	9.95	6.43	28.06	34.52	125	87	117	173	110	112
1900	6.87	12.88	10.50	8.08	31.46	38.33	133	96	123	217	123	125
1901	7.15	14.64	11.83	9.00	35.47	42.62	138	110	139	242	139	139
1902	7.31	17.66	13.70	10.44	41.80	49.11	141	132	161	280	163	160
1903	7.36	17.79	16.15	11.12	45.06	52.42	142	133	190	299	176	170
1904	7.55	21.97	16.32	11.51	49.80	57.35	146	164	192	309	195	186
AVERAGE 1900-04	7.25	16.99	13.70	10.03	40.72	47.97	140	127	161	263	159	156
1905	7.86	22.26	17.05	11.99	51.30	59.16	152	167	200	322	200	192
1906	8.30	27.45	18.09	11.55	57.09	65.39	161	205	212	310	223	213
1907	9.48	28.11	19.17	14.00	61.28	70.76	183	211	225	376	239	230
1908	9.78	28.61	19.52	16.26	64.39	74.17	189	214	229	437	252	241
1909	10.32	32.65	20.27	20.49	73.41	83.73	200	244	238	550	287	272
AVERAGE 1905-09	9.15	27.82	18.82	14.86	61.49	70.64	177	208	221	399	240	230
1910	10.67	32.34	24.31	25.66	82.31	92.99	207	242	285	689	322	302
1911	11.13	31.20	25.42	25.29	84.91	96.04	215	256	298	679	332	312
AVERAGE 1910-11	10.90	33.27	24.87	25.48	83.61	94.52	211	249	292	684	327	307

216 The private deposits available for commercial enterprise in the Presidency and joint-stock Banks, including Exchange Banks, increased from an average of about twenty-six crores in the five years 1890—94 to an average of sixty-one crores in the five years 1905—09, and now stand at about ninety crores. During the last ten years the increase has been unusually rapid. The deposits amounted to thirty-one crores in 1900 and rose to fifty-one crores in 1905, seventy-three crores in 1909, eighty-two crores in 1910 and eighty-five crores in 1911. In the five years ending with 1904 the annual growth as compared with the previous quinquennium was about nine per cent. In the next five years the annual growth was more than ten per cent and in 1910-1911 the annual growth has been much larger.

217 Credit is given usually in the form of bankers' advances. A considerable part of the deposits in banks is advanced to merchants usually, but not always, on securities. A successful merchant has no difficulty in

obtaining loans, provided that the operation, for which he requires the money, is a sound one. In times of great trade activity, a great deal of the money with bankers is placed at the disposal of business men and this creates a demand for commodities generally, and prices rise. During the upward general trend of prices, money is lent freely, and credit is at its maximum efficiency and exercises great influence on prices. In addition to bankers' advances, there is another form of credit, namely, bill discounting. In the discounting of bills credit is often given on the security of articles of definite value such as bales of jute, gunnies, cotton or other goods. The owner of these goods draws a bill on the buyer or consignee and the latter meets it within the definite period named on the bill. The drawer of the bill obtains the money at once by getting it discounted by his banker. These bills thus allow the owner to recover the value of his goods immediately; he is able to sell or consign them to another. The person who discounts the bill may, again, use it as a security for a temporary increase of his credit. Thus, the volume of the credit and the rapidity of its circulation is considerably increased.

218 When cheques pass through several hands, before being presented to the bank on which they are drawn, they become instruments of credit, taking the place of coins and notes in the locality where they circulate. In India, in recent years, cheques are made to do a great deal of work as an aid to the rupee and note circulation, and when they are finally cleared they are covered with the endorsements of persons and firms through whose hands they have passed. These cheques frequently remain in circulation for months before they are finally cleared and form an addition to the circulating medium of the place. The following statement of the amount of cheques cleared at the Clearing Houses in Calcutta, Bombay and Madras shows that the total amount of these cheques cleared in 1912 was 3.53 times of the average of the five years, 1890-94. Similar statistics are available for Karachi only from 1901, and in eleven years the amount of cheques, cleared in that city, has increased from 179 lakhs to eleven crores sixty lakhs, i.e., it has increased 548 per cent —

*Statement showing the amounts of cheques cleared at the Clearing Houses in Calcutta, Bombay, Madras and Karachi*

[In lakhs of rupees]

Years	CALCUTTA		BOMBAY		MADRAS		KARACHI		TOTAL—CALCUTTA, BOMBAY AND MADRAS	
	Amount	Index No	Amount	Index No	Amount	Index No	Amount	Index No	Amount	Index No
1890	63.33	79	61.31	111	13.11	121			137.75	94
1891	77.59	97	57.85	104	11.06	102			146.50	100
1892	84.13	105	48.54	87	11.14	103			143.81	98
1893	83.48	104	53.85	97	8.75	81			146.08	100
1894	92.29	115	55.99	101	10.06	93			158.34	108
1895	102.28	128	61.64	111	11.87	110			175.79	120
1896	101.80	127	69.40	125	10.03	93			181.23	124
1897	116.90	146	62.63	113	11.20	104			190.73	130
1898	105.36	131	59.74	108	11.15	103			176.25	120
1899	125.37	156	65.57	118	11.61	107			202.55	138
1900	139.61	174	60.70	109	12.04	111			212.35	145
1901	132.83	166	65.11	117	13.55	125	1.79	100	211.49	144
1902	146.31	183	70.13	126	13.05	121	2.68	150	229.19	157
1903	141.74	177	87.63	158	14.54	134	3.40	190	243.91	166
1904	140.67	175	94.93	171	15.47	143	3.66	204	251.07	171
1905	175.27	219	109.27	197	15.91	147	3.25	182	300.45	205
1906	206.42	257	109.12	197	15.94	147	4.01	224	331.48	226
1907	224.44	280	126.45	228	15.49	143	5.31	297	366.38	250
1908	212.81	265	125.85	227	17.54	162	6.44	360	356.20	243
1909	197.76	247	143.76	259	19.48	180	7.02	392	361.00	246
1910	222.38	277	166.53	300	21.17	196	7.55	422	410.03	280
1911	257.63	321	176.05	317	20.83	193	7.63	426	454.51	310
1912	288.31	360	206.94	373	21.53	199	11.60	648	516.78	353

Development of the  
English system of  
banking in India.

219 During the last ten years the English system of banking has been developing in all the provinces in India and has been very largely supplementing the operations of the *Banias* and *Marwaris*, who combine trade freely with money-lending and finance. It is impossible to collect any statistics of the operations of these men, but there is no doubt that their operations also have been growing *pari passu* with the growth of the English system of banking in India and that the latter has not displaced the former to any extent. The *Chetties* of Southern India, the *Bhatras* and *Parsees* of Bombay and Gujarat and the *Marwaris* and *Hindustanis* of Northern India are as flourishing to-day, if not more, as they were before, and still to-day there are 347 offices of joint-stock banks in 140 cities throughout India. The towns where these offices are largely established are the following —

Lahore	20 Bank Offices including 6 Head Offices			
Calcutta	18	„	„	4 „
Bombay	13	„	„	4 „
Delhi	11	„	„	1 „
Amritsar	9	„	„	3 „
Karachi	9	„	„	0 „
Lucknow	9	„	„	1 „
Cawnpore	8	„	„	0 „
Rangoon	8	„	„	2 „
Madras	6	„	„	2 „

220 The money-lenders themselves, it may be noted, are now making use of joint-stock Banks for deposit and remittance. This joint-stock banking system collects and distributes a large sum of money throughout the whole of India.

#### INCREASE IN THE CIRCULATING MEDIUM

The quantity of  
money and prices

221 Prices are but the value of goods measured in money, and must be considered to be governed by the general law of value, unless some reason for an exception in this case be shown, which, however, has never been done. The quantitative theory of money lays down that, under the simplest conditions and other things being equal, an increase in the quantity of money raises prices and a diminution lowers them. While there are some very staunch supporters of the theory, there are others who have cavilled at and even rejected it, but none of them has yet seriously undertaken to show what determines the value of money, *i.e.*, price, if the supply and demand do not. The opponents of the “Quantitative Theory of Money” have, it seems, been misled by not always remembering the many limitations of this theory, for example, (1) the complexity and elusiveness of the elements involved, and (2) the importance of the proviso which must be attached to every statement of this doctrine, *viz.*, ‘all other things being equal’. There is yet another party who hold that each of the two phenomena—rise or fall in prices and increase and decrease in the quantity of money—is likely to accompany the other, but they do not tell us *why* prices have gone up or *why* it has been necessary to increase the volume of the currency, in short, they hold that these two observed facts are only different phases of the same monetary phenomenon.

222 The quantitative theory of the value of money is true only under the simplest conditions and considerable qualification and elaboration are necessary before the bold statement—‘that an increase of the quantity of money raises prices and a diminution lowers them, is a most elementary proposition in the value of currency, and without it we should have no key to any of the others’—can be made to fit the complicated phenomena of modern times. It is well-known that the money supply of Europe was increased by 500 per cent during the first two generations of the discovery of America. Prices are, however, not generally considered to have increased more than 200 per cent. The new supplies of silver from Mexico and Peru were eagerly taken up by the countries of Europe which had been starving

for long owing to the continued silver famine in the middle ages. Speculation and enterprise arose in every land, new industries were created, and old and traditional industries were rapidly increased. A similar effect indeed was produced by the Californian and Australian discoveries, when the increased commercial and industrial activities and enterprise, themselves the result of the increased supply of new gold, added to the demand for money and prevented prices from rising proportionately to the increased supply. In short, we see the necessity of the provisos, 'other things being equal,' and 'under the simplest conditions.' Mill himself was careful to point out that the proposition is only true of "a simple and primitive state of things," and it must be received with many qualifications "which under a complex system of credit like that existing in England renders the proposition an extremely incorrect expression of the fact."

223 In order to isolate the influence of the quantity of money and to bring out clearly the central truth of the theory and the modifications that are required to make it hold good in modern industrial society, a 'hypothetical market' would have to be constructed where (i) credit and barter are excluded, *i.e.*, no exchanges of commodities are to be permitted unless money passes from hand to hand at every transaction, and (ii) money must be regarded solely as an instrument of exchange, and not used for hoarding or for industrial purposes (such as manufacturing jewellery), *i.e.*, money must be convertible or used exclusively as an instrument of exchange. This 'hypothetical market' is, in fact, the reverse of the market of to-day. A purchase made on credit has the same immediate effect on prices as the purchase made with cash. If a certain number of people purchase goods and offer money and there is an equal number, whose credit is good, purchasing on credit, the effect on the seller is the same as if the entire number had offered money. The extension of credit may, however, cause not merely the postponement of the use of money, but it may bring into action a train of causes enabling money to be dispensed with. If, for instance, a merchant of high standing buys goods, and gives his promissory note in payment, the transaction *per se* merely puts off the use of money until the maturity of the note. Conceivably, however, the holder of the note may turn it over, with his endorsement, to another person, in payment of goods. If that other person accepts it, the use of money in the second transaction is entirely obviated, yet the effect on prices is precisely the same as if so much money had actually passed. Influence of Credit

224 In addition to credit the other modifying influences must not be forgotten. There is, for example, the effect of the rapidity of the circulation of money and credit. In the recent Report of the Mackenzie Commission on the Cost of Living in New Zealand, the increase in the velocity of money circulation has been given a prime place as a cause of the rise of prices. The effect on the general prices is the same when, in effecting a certain amount of transactions, one piece of money is used ten times as when ten pieces are used once. The rapidity of circulation

225 Barter too must not be forgotten. It may be pointed out that if some things are exchanged by means of barter instead of by money, there is so much money left over to be given for the smaller amount of commodities, and in this way barter would, although indirectly, tend to raise prices. Barter

226 The importance of the second limitation in discussing the 'hypothetical market,' *viz.*, that there must be no hoarding and no demand of the money material for industrial purposes, or, in other words, that money must be regarded solely as an instrument of exchange, must be borne in mind. The demand for gold for industrial purposes affects the supply available for money. There are also demands for gold for military chests, and for public and private hoards. When there is a general rise of prices, the quantity of gold demanded for the arts tends to The second limitation—  
use of gold for  
hoarding and for  
arts

increase, and, as in recent years, with the great gold discoveries in South Africa, there has been a counteracting influence on prices by the increased demands for gold for industrial consumption

227 To sum up when all these factors have been allowed for, prices are determined by the relation between the volume of the purchasing medium in terms of money and the quantity of goods. The volume of the purchasing medium is, however, by no means the same as the volume of specie or what is generally called money. This purchasing power includes not only specie, but bank (or currency) notes and credit as well

Redundancy of  
rupees as a cause  
of the rise of prices

Autonomy of the  
Indian Currency  
system

228 Many writers on the rise of prices in India have held that prices have gone up in India, in consequence of an increase in the circulation of rupees, facilitated by the heavy coinage of rupees by Government in the last decade. The Indian currency system of to-day is, however, quite as automatic as it was previous to the closing of the Mints to the free coinage of silver. Before the closing of the Mints, silver used to be imported to adjust the balance of trade and if there was a demand for more rupees, the silver was presented at the Mint and rupees obtained, if, however, the number of rupees were more than was required for trade purposes they could be exported as bullion, there being no large difference between the bullion and the face value of the rupees. Now that the Mints have been closed to free coinage, the export of rupees to other countries, where the Government of India rupees are not current, and where they can be exchanged only for their bullion value, has necessarily disappeared, and the balance of India's trade can be made good only by the importation of gold or of Council bills in excess of the Secretary of State's requirements, and if trade requires more currency, Government have to supply rupees either in payment of the extra Council Bills or in exchange for the gold imported. While, on the other hand, if the balance of trade is reversed, the necessary adjustment can be made only by a remittance from India. Government have now tacitly undertaken the obligation to facilitate such remittances either by supplying gold from the reserves in this country or by selling bills on London in lieu of rupees received here. Thus remittances can be made from India to the other countries in adjustment of the trade balance as freely as before, and when such remittances are made on a large scale the inevitable effect will be a contraction of the circulation of rupees.

Coinage of Rupees  
only compulsorily  
undertaken

229 Rupees, when required by the trade, are ordinarily supplied, in lieu of gold or Council bills, from the currency reserve or the silver branch of the Gold Standard Reserve. When the amount of rupees in the silver portion of the Paper Currency Reserve falls to the margin of safety, the Government of India recognise that the time is drawing near for the coinage of new rupees. And when the percentage of the rupee reserve in the Currency to the total circulation becomes very low, coinage is compulsorily undertaken by Government. This will be evident from the following statement showing the total circulation of currency notes, the rupee reserve held against them, the percentage of the rupee reserve to the total circulation and the net coinage of the several years. In 1899-1900, the percentage of the reserve to the total circulation of currency notes was only 18.7, in 1902-03, 30.6, in 1903-04, 30, in 1904-05, 28.7, in 1905-06, 30.1, in 1906-07, 29.2, and in 1911-12 when coinage was again resumed, the percentage went down to 25.1. Thus it is clear that whenever the Government of India coined new rupees they were forced to do so by the depletion of the reserves due to the demands of trade. It is impossible to force an additional coinage into circulation even if the Government of India undertook to coin when the trade demands for more rupees were non-existent.

*Statement showing the total circulation of currency notes, the rupee reserve held against them, the percentage of the rupee reserve to the total circulation and the net coinage of the year*

Year	Total circulation of currency notes (in lakhs of rupees)	Currency Rupee Reserve (in lakhs of rupees)	Percent age of Rupee Reserve to total circulation	Net Rupee coinage (in lakhs of rupees) (a)	Year	Total circulation of currency notes (in lakhs of rupees)	Currency Rupee Reserve (in lakhs of rupees)	Percent age of Rupee Reserve to total circulation	Net Rupee coinage (in lakhs of rupees)
1894-95	30,70	22,70	73 9	—6	1903-04	38,21	11,50	30 0	10,79
1895-96	25,94	17,97	69 3	—29	1904-05	39,18	11,36	28 7	7,32
1896-97	23,75	13,75	57 9	—64	1905-06	44,66	13,58	30 4	16,48
1897-98	24,76	14,51	58 6	—12	1906-07	46,95	13,72	29 2	23,16
1898-99	28,20	15,15	53 7	9	1907-08	46,89	25,28	53 9*	14,91
1899-1900	28,74	5,38	18 7	40	1908-09	45,49	31,14	68 4*	—10
1900-01	29,87	9,42	31 5	16,81	1909-10	54,41	29,33	53 9*	1
1901-02	31,66	11,13	35 2	3,64	1910-11	54,99	26,06	47 4*	—47
1902-03	35,72	10,93	30 6	3,13	1911-12	61,36	15,40	25 1*	—6

(a) Minus figures represent excess of withdrawals over new coinage

\* Taking the rupees held in the Gold Standard Reserve into account, the percentages would be—

1907 08—66 7    1909 10—61 6  
 1908 09—103 4    1910 11—52 8  
 1911 12—29 9

230 The next table showing the yearly and average net coinages of silver, before and after the closing of the Mints, brings out clearly that in spite of the heavy coinages of recent years, the average net coinage during the eighteen years subsequent to the closing of the Mints was Rs 5,66,00,000 and in the previous eighteen years Rs 7,51,00,000. Thus, the average annual coinage during the eighteen years that have elapsed since the closing of the Mints has been much less than in the corresponding period preceding that date. In the decade immediately preceding the closing of the Mints, the average net coinage was Rs 8,08,00,000 and in the decade following Rs 3,72,00,000. This was due to a deliberate restriction of coinage to force up exchange. The average net coinage during the eight years ending 1911-12 was Rs 8,08,00,000 or the same as in the decade ending 1893-94, but if the coinage of the years 1912-13 be taken into account the average would be somewhat more. The coinage has in certain years been exceptionally great. Thus, in 1877-78, there was a net coinage of Rs 16,11,00,000, in 1887-88, Rs 10,32,00,000, in 1890-91, Rs 13,07,00,000 and in 1892-93, Rs 12,51,00,000. Since 1893, the years of heavy coinage were 1900-01 (Rs 16,81,00,000), 1903-04 (Rs 10,79,00,000), 1905-06 (Rs 16,48,00,000), 1906-07 (Rs 23,16,00,000), and 1907-08 (Rs 14,91,00,000). In the latter period, *i.e.*, after 1893, the comparatively heavy coinages in some of the years have been counterbalanced by little or no coinage in some others, *e.g.*, 1894-95 to 1899-1900 and 1908-09 to 1911-12, but this redeeming feature is absent in the earlier period.

*Statement showing the yearly and average net coinage of silver in India, before and after the closing of the Mints*

[In lakhs of Rupees.]

Years	Net coinage of silver	Decennial averages	Eighteen yearly averages	Years	Net coinage of silver	Decennial averages	Eighteen yearly averages
1874-75	4,84	6,17	7,51	1894-95	3	3,72	5,66
1875-76	2,52			1895-96	—7		
1876-77	6,25			1896-97	38		
1877-78	16,11			1897-98	37		
1878-79	7,14			1898-99	1,32		
1879-80	10,19	8,08	8,08	1899-00	16,93	8,08	8,08
1880-81	4,09			1900-01	3,82		
1881-82	1,55			1901-02	3,25		
1882-83	5,81			1902-03	11,15		
1883-84	3,15			1903-04	7,81		
1884-85	5,54	8,08	8,08	1904-05	16,88		
1885-86	9,83			1905-06	23,38		
1886-87	4,56			1906-07	15,70		
1887-88	10,32			1907-08	24		
1888-89	6,80			1908-09	11		
1889-90	8,24	8,08	8,08	1909-10	20		
1890-91	13,07			1910-11	30		
1891-92	5,36			1911-12			
1892-93	12,51						
1893-94	4,61						

Wastage of rupees  
—another factor

231 Another factor has to be borne in mind in this connection In spite of increased exports of British India rupees to East Africa and other places where they pass current, the total amount of wastage of rupees, due to melting, hoarding, exporting and other reasons, has in the recent period been much less—being in fact less than one-half—than the amount in the period prior to the closing of the Mints, as will be seen from the following statements This can be explained by the fact that rupees are no longer used for industrial purposes, as the value of the bullion contained in them is only a fraction of their nominal value, and also because gold is now being hoarded in preference to silver There are no indications of any appreciable change in the inveterate habit of the great majority of the people of hoarding their savings This is clear from the fact brought out in the second of the following statements that in every year of famine or scarcity, not only has there been no diminution of the currency in circulation due to the usual wastage, but that there has also been an actual addition evidently from hoards, thus in 1892 there was an addition of 2 crores, in 1897 of one crore, in 1901 of 9 crores, in 1907 of 3 crores and in 1908 of 6 crores

*Exports and Imports of Government of India Rupees*

Year	Exports	Imports	Net exports	Year	Exports	Imports	Net exports
1891-95	136,97,614	83,66,522	53,31,092	1903-04	142,02,089	83,09,392	58,92,697
1895-96	169,78,599	74,36,096	95,42,503	1904-05	122,83,145	62,18,732	60,64,413
1896-97	161,46,210	102,01,387	59,44,823	1905-06	110,81,420	32,58,093	78,23,327
1897-98	153,79,874	110,48,263	43,31,611	1906-07	199,92,165	72,14,271	127,77,894
1898-99	201,73,770	47,58,093	154,15,677	1907-08	162,35,680	120,83,930	41,51,750
1899-00	143,20,671	36,05,444	107,15,227	1908-09	117,50,767	88,61,093	28,89,674
1900-01	140,20,285	52,43,615	87,76,670	1909-10	183,85,706	14,45,256	169,40,450
1901-02	127,07,778	57,98,297	69,09,481	1910-11	214,90,960	42,43,662	172,47,298
1902-03	11,77,228	20,61,362	8,84,134	1911-12	152,62,890	39,12,895	113,50,005

*Statement showing, the average amount of rupees melted, hoarded, exported or otherwise wasted*

[In crores of Rupees

	Estimated stock of rupees in circulation and currency and Gold Standard Reserves	Increase + Decrease—	Net coinage of the year (a)	Amount melted, hoarded exported or otherwise wasted	Average amount melted, hoarded exported or otherwise wasted
1884	109				5
1885	113	4	9	5	
1886	111	— 2	5	7	
1887	111		8	8	
1888	112	1	7	6	
1889	117	5	7	2	
1890	120	3	12	9	
1891	126	6	6		
1892	138	12	10	— 2	
1893	136	— 2	8	10	
1894	130	— 6		6	2 5
1895	128	— 2		2	
1896	120	— 8	— 1	7	
1897	120		— 1	— 1	
1898	115	— 5		6	
1899	112	— 3	— 1	2	
1900	120	8	9	1	
1901	137	17	8	— 9	
1902	127	— 10	— 2	8	
1903	129	2	5	3	2 25
1904	132	3	12	9	
1905	142	10	10		
1906	160	18	24	6	
1907	186	26	23	— 3	
1908	192	6		— 6	
1909	190	— 2		2	
1910	186	— 4		4	
1911	180	— 6	— 1	5	
1912	185	5			

(a) In calculating the net coinage, withdrawals in official years have been taken into account

232 Thus, although the coinage in the last eighteen years has been less than that in the corresponding period before the closing of the Mints, the actual average addition to the currency has been more, as allowance should be made for the decrease in the amounts melted and hoarded

233 The following statement shows the stock of rupees in circulation (the method of calculating which has been described in Appendix M), the circulation of currency notes and the amount of rupees and currency notes in *actual* circulation. The circulation of sovereigns has not been taken into account as it has not been possible to estimate it. But whatever may be the amount of sovereigns in circulation, it is not likely to be appreciable in comparison with that of rupees and currency notes, and the omission would not affect the figures seriously. The circulation of notes of the denomination of Rs 10,000 has also been excluded, as these high denomination notes do not really circulate but are used as a convenient means of locking up money for future use, moreover, the bulk of these notes is held by Government Reserve Treasuries and as such do not play any important part in the ordinary transactions of the country. This statement shows that the circulating medium apart from credit has increased 60 per cent in volume since the period 1890—94



*Statement showing the total amount of currency in circulation (including Currency Notes)*

	Total estimated stock of rupees in circulation and in Currency and Gold Standard Reserves (in crores of rupees)	Add circulation of Currency Notes* (in crores of rupees)	Deduct Rupees held in the Currency Reserve* (in crores of rupees)	Deduct Rupees held in the Gold Standard Reserve* (in crores of rupees)	Deduct circulation of Rs 10,000 Notes* (in crores of rupees)	Actual circulation of rupees and Currency Notes (in crores of rupees)	Index Numbers Average of 1890-1894=100
1884	109	15	7		2	115	88
1885	113	14	7		2	118	90
1886	111	14	7		1	117	90
1887	111	16	9		2	116	89
1888	112	16	8		2	118	90
1889	117	16	8		2	123	94
1890	120	26	18		8	120	92
1891	126	24	14		5	131	100
1892	138	26	18		5	141	108
1893	136	30	22		12	132	101
1894	130	31	23		9	129	99
1895	128	26	18		4	132	101
1896	120	24	14		3	127	97
1897	120	25	15		5	125	96
1898	115	28	15		6	122	93
1899	112	29	5		5	131	100
1900	120	30	9		7	134	103
1901	137	32	11		8	150	116
1902	127	36	11		9	143	109
1903	129	38	12		8	147	113
1904	132	39	11		8	152	116
1905	142	45	14		9	164	126
1906	160	47	14		8	185	142
1907	186	47	25	6	12	190	145
1908	192	45	31	16	9	181	139
1909	190	54	29	4	13	198	152
1910	186	55	26	3	13	199	152
1911	180	61	15	3	14	209	160
1912	185	69	16	6	18	214	164

\* On the last day of March of the next year

Increase in circulating medium not more than the increase in business\*

231 This increase in the volume of metallic currency does not, however, appear to have been larger than what has been required by the growth of business and other demands for currency. The following table shows the growth of business in India between 1890—1911. It includes only a few items such as external and internal trade, railway traffic, post office and treasury transactions, the capital of Joint Stock Companies, the consumption of rice, wheat and coal, and the production of jute and cotton. In 1911, business had grown by over 120 per cent (the standard period being 1890—1894). It will be seen that this growth was especially marked from 1904, the general index numbers being as follows: 1890—1894, 100; 1895, 110; 1900, 128; 1903, 148; 1904, 160; 1906, 179; 1909, 193; 1910, 202; and in 1911, 222. In the absence, therefore, of any marked increase in the rapidity of the circulation of currency and credit—and we have had no evidence of any remarkable change in the rate during the last two decades—the demands of business would necessitate a corresponding increase in the volume of currency and credit. But as explained above, the volume of rupees and currency notes in actual circulation has increased only 60 per cent as compared with the 120 per cent increase in the growth of business. Moreover, barter has been giving place to payment in cash, especially in regard to the payment of wages, and this also has undoubtedly increased the demand for currency in the interior. Another factor, of which we got conclusive proofs in our tours in the various parts of India, is that currency in all its forms now remains in inland districts when it has done its special work of moving harvests or relieving famines, because it is required locally afterwards. The life of the individual ryot or groups of ryots is not so self-contained now as formerly, rents as well as wages are now paid in money rather than in kind, railways, rather than the ryots' own carts, are carrying the produce and all of these require a larger amount of currency than before.

## Statement showing the growth of business in India

YEARS	IMPORTS AND EXPORTS OF MERCHANDISE AND TREASURE EXCLUDING GOVERNMENT STORES		TONNAGE ENTERED AND CLEARED WITH CARGO		IMPORTS AND EXPORTS, COASTING TRADE		IMPORTS AND EXPORTS, INLAND TRADE		PASSENGERS CARRIED BY RAILWAYS		FREIGHT CARRIED BY RAILWAYS		TREASURY AND PRESIDENCY PORT TRUST AND MUNICIPAL TRANSACTIONS (EXCLUDING REMITTANCES)	
	1		2		3		4		5		6		7	
	In lakhs of rupees	Index numbers	In thousands of tons	Index numbers	In lakhs of rupees	Index numbers	In millions of maunds	Index numbers	Passenger mileage in millions	Index numbers	Ton mileage in millions	Index numbers	In lakhs of rupees	Index numbers
1890	193.16	99	6,635	97	65.59	97	524	92	4 789	89	3 509	82	254.63	98
1891	192.49	98	7 153	104	67.90	100	588	104	5 226	98	4 439	103	260.21	100
1892	193.07	99	6 593	96	66.10	98	544	96	5,265	98	4,234	99	267.89	103
1893	202.86	104	6,763	98	68.44	101	573	101	5,602	105	4,426	103	258.29	100
1894	196.70	100	7,215	105	70.32	104	606	107	5,890	110	4 859	113	255.32	99
1895	201.18	103	7,200	105	74.61	110	625	110	6,184	116	4,941	115	265.89	103
1896	193.71	99	6,712	98	68.20	101	605	107	6 441	120	4,588	107	270.99	105
1897	194.42	99	6,706	98	75.82	112	657	116	5,924	111	4,706	112	287.05	111
1898	206.39	105	7,709	112	68.71	101	727	128	5 826	109	5,712	133	287.32	111
1899	208.60	107	7,438	108	80.94	120	815	144	6,191	116	6,164	144	310.24	120
1900	207.58	106	7 072	103	83.52	123	806	142	7,068	132	6 650	155	338.98	131
1901	234.09	120	8,350	122	79.49	117	860	152	7,872	147	7,066	165	329.78	127
1902	241.68	124	9,360	136	72.91	108	805	142	7,872	147	7 178	167	354.11	137
1903	277.88	142	10,670	155	72.50	107	903	159	8,388	157	7,632	178	371.05	143
1904	295.20	151	11,492	167	78.81	116	1,104	195	9 007	168	8,972	209	374.22	144
1905	292.18	149	10,573	154	84.25	124	1,137	201	9 900	185	9,041	211	396.26	153
1906	318.14	163	11 801	172	96.31	142	1,164	205	10,688	200	9 771	228	421.99	163
1907	345.53	177	12,388	180	109.01	161	1,229	217	11 841	221	10,841	252	405.89	157
1908	302.89	155	11 594	169	106.62	157	1,137	201	12,103	226	9 926	231	420.08	162
1909	348.77	178	12,491	182	106.56	157	1 236	218	12 365	231	9,340	218	428.53	165
1910	386.26	197	12 755	186	104.94	155	1,329	234	13,432	251	12,093	282	437.14	169
1911	430.19	220	13,847	201	109.25	161			14 373	268	13,358	311	456.03	176

YEARS	POST OFFICE TRANSACTIONS RECEIPTS AND PAYMENTS		CAPITAL OF JOINT STOCK COMPANIES REGISTERED IN INDIA		CONSUMPTION OF RICE		CONSUMPTION OF WHEAT		PRODUCTION OF JUTE		PRODUCTION OF COTTON		CONSUMPTION OF COAL.		General Index num ber of growth of business	POPULATION		
	8		9		10		11		12		13		14			15	16	
	In lakhs of rupees	Index numbers	In lakhs of rupees	Index numbers	In lakhs of maunds	Index numbers	In lakhs of maunds	Index numbers	In lakhs of maunds	Index numbers	In lakhs of maunds	Index numbers	In thousands of tons	Index numbers		In millions	Index numbers	
1890	40.77	90	24.25	93	67.03	92			3.22	118	1.03	119	2,927	92	97	212.7	100	
1891	42.75	94	26.35	101	55.26	76	17.96	98	2.03	75	71	82	3,060	97	95	213.0	100	
1892	45.14	99	26.46	101	74.67	102	16.20	89	2.92	107	80	92	3,170	100	98	213.4	100	
1893	48.04	106	26.65	102	81.99	112	19.28	105	2.47	90	99	114	3,065	97	103	213.8	100	
1894	50.54	111	27.06	103	87.18	118	20.58	113	3.00	110	80	93	3,594	114	107	214.4	100	
1895	53.63	118	28.87	110	73.08	100	17.36	95	3.20	118	98	113	4,221	130	110	215.0	101	
1896	58.57	129	30.35	116	49.74	68	15.62	85	2.70	99	81	93	4,221	130	104	215.7	101	
1897	63.96	141	32.09	123	88.16	119	14.96	82	3.35	123	91	105	4,115	130	113	216.5	101	
1898	62.56	137	34.60	132	90.60	124	18.77	103	2.66	98	1.09	125	4,640	147	117	217.3	102	
1899	65.49	144	34.46	132	72.37	99	20.07	110	2.79	102	55	63	5,211	165	120	218.2	102	
1900	67.93	149	36.09	138	75.76	104	16.81	88	3.34	112	1.10	127	5,764	182	128	219.1	103	
1901	70.84	156	37.22	142	62.20	95	19.22	105	3.85	141	1.04	120	6,239	197	136	220.1	103	
1902	73.05	161	37.91	145	81.10	111	16.67	91	3.28	120	1.26	145	7,213	228	140	221.1	103	
1903	77.22	170	38.57	147	77.11	105	18.40	101	3.97	146	1.23	142	7,160	226	148	221.9	104	
1904	81.88	180	40.17	154	76.35	104	19.84	109	3.80	140	1.41	163	7,868	249	160	222.6	104	
1905	87.09	192	41.63	159	74.07	101	18.53	101	4.31	158	1.24	143	7,832	248	163	223.2	104	
1906	92.93	204	44.05	168	75.86	104	20.33	111	4.74	174	1.61	186	9,006	285	179	223.8	105	
1907	99.92	220	50.40	193	61.10	83	19.72	108	5.32	195	1.09	126	10,791	341	188	225.1	105	
1908	101.94	224	56.72	217	69.39	95	14.30	78	3.26	119	1.34	155	12,494	395	185	225.6	106	
1909	103.75	228	61.18	234	85.23	116	15.89	87	3.37	124	1.60	185	11,797	373	193	227.3	106	
1910	108.29	238	63.73	244	82.18	112	19.46	106	3.62	133	1.42	164	11,375	360	202	229.0	107	
1911	118.46	261	69.02	264	78.19	107	19.66	108	4.23	155	1.22	141	12,172	385	222	230.6	108	

No indication of redundancy of rupees for any length of time during the period under enquiry

235 Throughout the period under enquiry, there were also no signs of a redundancy of rupees for any length of time, as it would have led to the export of gold in the form of currency or bullion and to a continued fall in exchange. The statement below shows the imports and exports (less the quantity of gold produced in India) of gold and the rates of exchange. It will appear that since the stability of the gold value of the rupee was established, exchange fell below the fixed ratio of 16*d* per rupee only in the year 1908-09, and there were signs of redundancy of rupees for a part of that year, when the export trade was stagnant and there was a financial crisis in America, but the Government of India were, by selling bills on London, able to immediately arrest the downward course of the exchange, and the imports of gold more than recovered in the next year. Except therefore, for only a portion of a year, there have been no indications of a redundancy of coinage in India.

*Imports and Exports of Gold into and from India, in quantity*

	IMPORTS (IN THOUSANDS OF TOLAS)			EXPORTS LESS GOLD PRODUCED IN THE COUNTRY (IN THOUSANDS OF TOLAS)			Rate of exchange in pence per rupee
	Sovereigns	Other coins and bullion	Total	Sovereigns	Other coins and bullion	Total	
1889-90			22,67		.	2,05*	16 566
1890-91			31,36			1,44	18 089
1891-92			18,91			4,08	16 733
1892-93			7,27			14,99	14 984
1893-94			12,66			4,55	14 546
AVERAGE			18,57			5,42	
1894-95			6,32			19,09	13 100
1895-96			18,53			3,05	13 638
1896-97			17,53			63	14 450
1897-98			30,11			15	15 354
1898-99			38,20			-25	15 978
AVERAGE			22,14			4,53	
1899-00			51,04			-2,75	16 067
1900-01	30,75	22,26	53,01	4,55	31,92	36,47	15 973
1901-02	24,09	12,50	36,59	12,07	3,01	15,08	15 987
1902-03	39,81	18,52	58,33	5,25	1,49	6,74	16 002
1903-04	59,29	29,52	88,81	29,85	1,10	30,95	16 049
AVERAGE			57,56			17,30	16 016
1904-05	59,52	36,61	96,13	39,16	1	39,17	16 015
1905-06	27,36	36,55	63,91	48,67	15	48,82	16 012
1906-07	36,76	43,75	80,51	2,81	-1,21	1,60	16 087
1907-08	45,98	41,16	90,14	8	1,02	1,10	16 029
1908-09	7,39	28,19	35,58	3,11	65	3,76	15 954
AVERAGE	34,00	37 85	73 25	18,77	12	18,89	16 033
1909-10	63,25	45,92	1,09,21	19	22	41	16 041
1910-11	57,47	63,25	1,20,72	2,56	40	2,96	16 051
1911-12	1,24,72	58,52	1,83,24	77	93	1,70	16 034
AVERAGE	81,83	55,90	1 37,72	1,17	52	1,69	16 036

\* Includes gold produced in the country

236 In short, the growth of the volume of currency (including notes) has not been incommensurate with the growth of business and other demands for currency, and in the absence of any indications of a redundancy of rupees for any length of time, it is clear that the rupee coinage of the Government of India could not have exercised any important influence on the level of prices

Rupee coinage had no important influence on prices

237 The same, however, cannot be said of credit. It has been already explained that credit has developed considerably in this country. Although it is not possible to gauge the extent of this development with any very great accuracy, the growth in the capital of Banks, their private deposits, and the Clearing House returns would be some sort of a rough guide. The table below shows that this growth has been in 1911, 186 per cent, a proportion much larger than the growth of business, and has, as already explained, contributed to a certain extent to the rise in prices in India.

Growth of credit—its considerable influence on prices

*Statement showing the Development of Credit in India*

	Capital and reserve of Banks in India (in lakhs of rupees)	Private deposit in Banks in India (in lakhs of rupees)	Clearing House returns, Calcutta, Bombay and Madras (in lakhs of rupees)	INDEX NUMBERS			
				Capital	Deposits	Clearing House returns	Total
1890	4,99	25,01	1,37,75	96	98	94	96
1891	5,05	26,22	1,46,50	98	102	100	100
1892	5,12	25,07	1,43,81	99	98	98	98
1893	5,27	24,31	1,46,08	102	95	100	99
1894	5,43	27,39	1,58,34	105	107	108	107
AVERAGE	5,17	25 60	1,46,50	100	100	100	100
1895	5,85	29,09	1,75,79	113	114	120	116
1896	6,09	28,45	1,81,23	118	111	124	118
1897	6,51	26,06	1,90,73	126	102	130	119
1898	6,89	27,16	1,76,25	133	106	120	120
1899	6,94	29,54	2,02,55	134	115	138	129
AVERAGE	6,46	28,06	1,85,31	125	110	126	120
1900	6,87	31,46	2,12,35	133	123	145	134
1901	7,15	35,47	2,11,49	138	139	144	140
1902	7,31	41,80	2,29,49	141	163	157	154
1903	7,36	45,06	2,43,91	142	176	166	165
1904	7,55	49,80	2,51,07	146	195	171	171
AVERAGE	7,25	40,72	2,29,66	140	159	157	152
1905	7,86	51,30	3,00,45	152	200	205	186
1906	8,30	57,09	3,31,48	161	223	226	203
1907	9,48	61,28	3,66,38	183	239	250	224
1908	9,78	64,39	3,56,20	189	252	243	228
1909	10,32	73,41	3,61,00	200	287	246	244
AVERAGE	9,15	61,49	3,43,10	177	240	234	217
1910	10,67	82,31	4,10,08	207	322	280	270
1911	11,13	84,91	4,54,51	215	332	310	286
AVERAGE	10,90	83,61	4,32,30	211	327	295	278

## IMPORT OF CAPITAL AS A CAUSE

The import of  
capital into India

238 The import of capital has been suggested as a factor contributing to the rise of prices. It is held that some part of the new capital entered the country in the form of goods and that the heavy demand for Council Bills also shows that a large part came in the form of what is, in reality, money. The great exporting firms found it necessary and remunerative to bring more capital into India from abroad. Mr J M Keynes put forward the theory that 'apart from the fluctuations of the seasons the Indian level of prices is most influenced at the present time by the extent to which Europe makes her investments there'. It is understood that Mr Keynes has recently modified his position to some extent, and while still believing that the influence has been appreciable, he is inclined to think that the influence of foreign investments has been exaggerated. We were unable in our tours to obtain any satisfactory evidence from merchants and bankers which would suggest any import of capital sufficiently great to influence the Indian price level to an appreciable extent and which would lead us to believe that the import of capital is a principal cause of the recent rise in the cost of living in India. It was not possible to obtain reliable statistics showing that any large amount of capital has been imported into India. It is true that the Exchange Banks have increased their capital considerably during the last two decades, but it is difficult to say how much of this capital actually came to India and how much went to other countries in which the Banks had agencies. In 1890, the total capital was £6 383,707, in 1895, £7,693,082, in 1900, £11,802,735, in 1903, £14,488 364 in 1905 £15,203,997 in 1907, £16,671,281 in 1909, £18,952,408, and in 1910 £21,384,557.

Import of capital  
into India as a cause  
of the rise of prices

239 There are no data from which even an approximate estimate of the amount of foreign capital imported into India year by year could be made. The statement on page 447 of Vol IV, Statistics, showing the balance of trade and the amount of Council bills, should give indications of an import of capital, if there were any. The figures in the last two columns tend, however, to cancel each other over a series of years, indicating that it is only the profits of earlier investments and the savings of Europeans working in India which have been reinvested, and that not much fresh capital has been imported during the period under enquiry. The general conclusions seem to be (1) that, judging at least from the incomplete data available and from the views of leading merchants and bankers of Bombay, Calcutta, Madras, Cawnpore, and elsewhere, the import of capital has not been of such magnitude during the period under enquiry as to influence Indian prices to any large extent and (2) that the rise is to be attributed to other causes of greater importance than the import of capital.

## IMPOSITION OF AN EXPORT DUTY ON FOODGRAINS—WOULD IT REDUCE PRICES AND WOULD IT BE DESIRABLE

Would the  
imposition of an  
export duty reduce  
prices and would  
it be desirable to  
impose it

240 It was suggested by some witnesses that in times of very high prices an export duty should be levied on food-grains in order to lower the level of food prices in India. The following statement shows the outturn, exports and percentage of the latter to the former for rice, wheat and other kinds of food-grains in British India excluding Burma. Another statement is also appended, showing the exports and imports of the different kinds of food-grains. A study of these figures shows that the percentage of exports to the total production is ordinarily very small and that in years of famine, it dwindles to a still smaller figure indeed. Thus, in 1897-98 it was only 86, in 1900-01, 89 and in 1908-09, 101, while in exceptionally favourable years it does not rise much above 4 per cent. In 1891-92, it was only 37, in 1904-05, 45 and in 1911-12, 44. It was only in two years out of the long period from 1891-92 to 1911-12 that the food supply in

\* *See "Foreign Investments in India—J M Keynes—Economic Journal, March 1907, page 67*

India proper actually fell short of requirements, and had to be supplemented by importing more from outside than was exported out of the country. In most of the other years, except those which were especially favourable, the quantity exported was made good to an appreciable extent by imports from outside. This was probably the effect of the export of a considerable quantity of the finer kinds of foodgrains to the immense benefit of the producers, while the requirements of those, who could not afford the finer stuffs, were met in their interests by the importation of cheaper kinds of grain from Burma and other countries.

[In lakhs of maunds

Years	RICE			WHEAT			OTHER FOODGRAINS			TOTAL		
	Outturn	Exports	Percentage of exports to outturn	Outturn *	Exports	Percentage of exports to outturn	Outturn	Exports	Percentage of exports to outturn	Outturn	Exports	Percentage of exports to outturn
1891 92	56,58	1,43	2.5	22,16	4,25	19.2	84,70	41	48	163,44	6,09	3.7
1892 93	75,70	1,28	1.7	18,35	2,16	11.8	93,89	26	28	187,94	3,70	2.0
1893 94	82,45	1,19	1.4	21,05	1,78	8.4	95,31	32	34	198,81	3,29	1.7
1894 95	88,11	1,53	1.8	21,61	1,06	4.9	93,30	29	37	203,02	2,88	1.4
1895 96	74,17	1,41	1.9	18,85	1,51	8.0	95,63	35	37	188,65	3,27	1.7
1896 97	50,09	1,20	2.4	15,93	39	2.5	63,65	23	36	129,67	1,82	1.4
1897 98	87,68	1,16	1.3	15,39	44	2.9	104,45	18	17	207,52	1,78	.86
1898 99	91,36	1,61	1.8	21,58	2,81	13.1	111,27	46	41	224,21	4,88	2.2
1899 00	72,00	1,43	2.0	21,48	1,45	6.8	79,69	30	38	173,17	3,18	1.8
1900 01	74,32	1,35	1.8	16,15	13	8	90,01	14	16	180,48	1,62	.89
1901 02	68,71	1,32	1.9	20,31	1,12	5.5	96,33	27	28	185,35	2,71	1.5
1902 03	81,48	1,44	1.8	18,23	1,57	8.6	106,81	60	56	206,52	3,61	1.7
1903 04	78,23	1,57	2.0	22,12	3,72	16.8	105,13	72	69	205,48	6,01	2.9
1904 05	77,21	1,60	2.1	25,92	6,08	23.4	89,95	1,08	12	193,03	8,76	4.5
1905 06	74,50	1,56	2.1	21,22	2,75	13.0	85,19	54	63	180,91	4,85	2.7
1906 07	75,24	1,39	1.8	22,68	2,38	10.5	97,38	41	42	195,30	4,18	2.1
1907 08	59,95	1,22	2.0	22,26	2,58	11.6	83,61	66	79	165,82	4,46	2.7
1908 09	67,66	1,14	1.7	14,65	44	3.0	88,08	20	23	170,39	1,78	1.01
1909 10	84,13	1,31	1.6	18,92	3,03	16.0	103,16	60	58	206,21	4,94	2.4
1910 11	82,36	1,52	1.8	23,10	3,64	15.8	105,85	55	52	211,31	5,71	2.7
1911 12	79,51	1,89	2.4	23,61	3,95	16.7	98,44	2,91	3.0	201,56	8,80	4.4

\* Outturn of previous year taken against the Exports of the next year

[In lakhs of maunds

Years	RICE				WHEAT				OTHER FOODGRAINS				TOTAL			
	Exports	Imports	Net exports	Percentage of outturn	Exports	Imports	Net exports	Percentage of outturn	Exports	Imports	Net exports	Percentage of outturn	Exports	Imports	Net exports	Percentage of outturn
1891 92	143	11	132	2.3	425	5	420	18.9	41	5	36	43	609	212	588	3.6
1892 93	128	25	103	1.4	216	2	214	11.6	26	5	21	22	370	32	338	1.8
1893 94	119	73	46	.56	178	1	177	8.4	32	7	25	26	329	81	248	1.2
1894 95	153	60	93	1.1	106	3	103	4.8	29	5	24	26	288	68	220	1.08
1895 96	141	32	109	1.5	151	2	149	7.8	35	5	30	31	327	39	288	1.5
1896 97	120	86	34	.68	39	8	31	1.9	23	10	13	20	182	104	78	.60
1897 98	116	164	-48	-.55	44	1	43	2.8	18	9	9	-0.9	178	174	4	.02
1898 99	161	85	76	.83	281	4	281	13.1	46	6	40	36	488	91	397	1.8
1899 00	143	180	-37	-.51	145	4	141	6.6	30	27	3	0.4	318	211	107	.62
1900 01	135	278	-143	-1.9	13	9	4	2.5	14	41	-27	-30	162	328	-166	-.92
1901 02	132	181	-49	-.71	112	3	19	5.4	27	20	7	0.7	271	203	68	.37
1902 03	144	106	38	.47	157	3	157	8.6	60	12	48	45	361	118	243	1.2
1903 04	157	45	112	1.4	372	3	372	16.8	72	6	66	63	601	51	550	2.7
1904 05	160	73	87	1.1	608	6	603	23.5	108	10	98	11	876	83	793	4.1
1905 06	156	113	43	.58	275	6	269	12.7	54	12	42	49	485	131	354	2.0
1906 07	139	202	-63	-.84	238	3	235	10.4	41	10	31	32	418	215	203	1.04
1907 08	122	237	-115	-1.9	258	4	254	11.4	66	9	57	68	446	250	196	1.2
1908 09	114	286	-172	-2.5	44	8	36	2.5	20	15	5	0.6	178	309	-131	-.77
1909 10	131	241	-110	-1.3	303	3	303	16.0	60	14	46	45	494	255	239	1.2
1910 11	152	134	18	.21	364	3	364	15.8	55	12	43	41	571	146	425	2.01
1911 12	189	56	133	1.7	395	3	395	16.7	291	8	288	2.9	880	64	816	4.05

Prohibition of exports will not exercise any large and permanent check on the rise of prices

241 The first conclusion, which suggests itself from a study of the figures contained in the foregoing table, is that the prohibition of exports in years of famine would not ensure such a relatively large addition to the stock of food-grains as would bring down their prices to any remarkable extent. Even if prices were to fall substantially, one effect of it would be to tax the people of Burma and other localities, that have a surplus, for the benefit of the people of the famine-stricken areas, as it is they who would practically pay the whole of the export duty. The objections to this course are obvious. There would also be no object in retaining the finer qualities of foodgrains in the country when in exchange for them much larger quantities of inferior grain well suited for the consumption of a great number of the people could be obtained from other countries.

Arguments against an export duty

242 The economic arguments against an export duty cannot be dismissed as academical. The effect of foreign trade generally is to steady prices in India of the commodities entering into international commerce, preventing them from falling to a level lower than that at which the commodities can be profitably exported, or from rising to a level higher than that at which they can be profitably imported. The variations in prices are, thus, greatest in those commodities which are not affected by European trade, *e g*, Jowar, Bajra, Ragi, etc (*vide* para 93, Chapter IV). The export trade clearly encourages production and creates the reserve which is drawn upon in times of scarcity. This reserve actually tends to prevent prices rising to the extent that they would otherwise do. If a prohibitive export duty were to be levied in good years, the stocks of grains would accumulate and grain prices would fall. The cultivators, who form about two-thirds of the population of India, would be poorer by the difference between the price that would prevail after the imposition of the prohibitive export duty and that which they would have otherwise obtained. It would, therefore, be a loss to India if any check were to be put upon exports. Burma, which depends largely upon its exports of rice to India proper and other countries, specially in times of famine and the Punjab with its wheat-growers would suffer particularly.

243 Another fact to be remembered is that, if there is a fall in prices, it would no longer be profitable to cultivate the inferior lands, which would then soon go out of cultivation, and there would be a permanent decrease in the produce of foodgrains in India, and in consequence a rise in the prices.

## CHAPTER VIII.

**World-factors—Causes affecting all countries of the world  
and not confined to India alone.**

**INCREASE IN THE WORLD'S DEMAND FOR COMMODITIES**

244 The following statement shows the world's production of the important food-grains, cotton and sugar, from 1895 to 1910. A study of these figures shows that, disregarding decreases in individual years, the effect of which could have only been temporary, the world's supply of these commodities has been steadily increasing and at a greater speed than the population of the world as a whole. Still prices have risen practically throughout the world during the period included in the table. It is not, therefore, a decrease in the supply which could have led to an increase in the general price level in the world's markets. The question then arises, has the demand for commodities in general increased so materially as to cause such a substantial increase in the general prices of the world? There has undoubtedly been a great increase in the effective demand for commodities owing (1) to a higher standard of living consequent on the general prosperity of the world, (2) to the increased use of foodgrains in manufactures, (3) to the sinking of large amounts of capital on the construction of new railways, and on other industrial enterprises, (4) to the opening up of new lands in all parts of the world, (5) to the transfer of a large amount of labour from areas of low standard of food consumption to industrial countries with a higher standard of consumption, (6) to the great wars that have taken place in quick succession since 1898 and (7) to the activity of the most prosperous nations of the world in increasing their army and navy, operations which have undoubtedly stimulated consumption of all classes of commodities. But it is difficult to allocate the share of the increase in prices due to the increased demand.

*World's production of important foodgrains, cotton and sugar*

Year	IN MILLIONS OF BUSHELS						Total	Total Index Numbers (1895 99 = 100)	Cotton (In thou sand Bales of 500 lbs gross weight or 478 lbs net each)	Sugar (cane and beet) in 1,000 Tons
	Wheat	Rice *	Corn	Oats	Barley	Rye				
1890	2,204									
1891	2,432									
1892	2,482									
1893	2,559									
1894	2,661		1,671							
1895	2,593	1,172	2,835	3,008	916	1,468	11,992	102		10,150
1896	2,506	999	2,964	2,847	932	1,499	11,749	100		10,221
1897	2,234	714	2,585	2,631	863	1,306	10,333	88		20,670
1898	2,942	1,214	2,680	2,885	1,024	1,465	12,210	104		11,062
1899	2,768	1,235	2,724	3,236	925	1,618	12,506	106		10,777
1900	2,641	1,526	2,793	3,166	960	1,558	12,643	108	15,894	12,444
1901	2,956	1,657	2,367	2,863	1,072	1,416	12,331	105	15,926	13,591
1902	3,090	1,777	3,187	3,626	1,229	1,648	14,558	124	17,332	12,376
1903	3,190	1,848	3,067	3,378	1,236	1,660	14,378	122	17,279	12,947
1904	3,16	1,929	3,109	3,611	1,176	1,742	14,731	125	21,005	12,310
1905	3,327	1,816	3,461	3,510	1,180	1,496	14,790	126	18,342	14,613
1906	3,434	1,863	3,929	3,545	1,297	1,433	15,501	132	22,109	14,969
1907	3,129	1,773	3,350	3,592	1,272	1,539	14,655	125	18,821	14,220
1908	3,173	1,802	3,524	3,570	1,266	1,590	14,926	127	21,321	14,758
1909	3,633	2,253	3,673	4,317	1,475	1,744	17,095	145	18,052	15,164
1910	3,661	2,242	4,027	4,147	1,385	1,676	17,128	146	19,993	17,504
1911	3,517			3,829	1,377	1,578				

\* 1 Bushel = 60 pounds



## INCREASED SUPPLY OF GOLD FROM THE WORLD'S MINES

Increased production of gold in recent years

245 In recent years the production of gold has increased to an amount unknown before. A new golden era may be said to have commenced with the discovery of the Transvaal gold fields and the development of the cyanide process invented by Messrs McArthur and Forrest, a process which has rendered possible the exploitation of the lower grade ores, from which, but for the invention, gold could not have been profitably extracted. The value of gold like other commodities is subject to the law of supply and demand, and if the supply of gold becomes abundant it must decrease in value, and being the standard by which the value of all other commodities in the world's markets is measured, a decrease in the value of gold necessarily means a rise in the price of all other commodities.

Fall in the value of gold slow and gentle.

246 The fall in the value of gold, as pointed out by Jevons, is only gradual and gentle. "Far from taking place with sudden and painful starts, flinging the rich headlong to a lower station and shaking the groundwork of society, nothing is more insidious, slow and imperceptible. It is insidious because we are accustomed to use the standard as invariable, and to measure the changes of other things by it, and a rise in the price of any article, when observed, is naturally attributed to a hundred other causes than the true one. It is slow, because the total accumulations of gold in use are but little increased by the additions of any one or of several years. It is imperceptible, because the slow rise of prices due to gold depreciation is disturbed by much sudden and considerable, but temporary, fluctuations, which are due to commercial causes, and are by no means a novelty." Jevons calculated that, consequent on the American and Australian gold discoveries, the average fall in the purchasing power of gold measured by the change in the prices of 39 'chief' articles, between 1845-50 and 1860-62, was 14 per cent, and measured by 64 'minor' articles, 6.34 per cent. The total average fall he estimated at 9 per cent, or the average rise of prices at  $10\frac{1}{4}$  per cent.

Most writers attribute rise of prices to increased supply of gold

247 It is also interesting to note that of thirty recent writers on the causes of the rise of prices, no less than 17 have attributed the advance of prices mainly to this increase of the gold supply, while four others regard this cause as of secondary importance.

Massachusetts Commission on the cost of living

248 The Massachusetts Commission on the Cost of Living believed that "the primary cause of the world-wide advance of prices since 1897 is the increase of the gold supply, which has reduced the purchasing power of money and brought about a corresponding increase of values, measured in money, in all the leading commercial States and, at least in the United States, has served as the basis for a vast extension of credit."

Views of Prof Sellsman

249 Professor E. R. A. Seligman, Columbia University, United States of America, summarises his views on the rise of prices as follows—"It is obvious that, apart from the minor oscillations in any one commodity, a general change in the level of prices can be explained only by a cause which attaches equally to all prices. Now, price in general is value expressed in terms of money, hence a general change in the price-level means a change in the value of money. But the value of money, like the value of everything else, depends on the relation of the supply of money to the demand for money. From the point of view of supply the answer is easy. The standard of the civilized world is now, and has been for some time, gold. Gold, in other words, is being turned out in such enormous quantities that it is falling in value. But a fall in the value of gold, other things being equal, is tantamount to a rise in general prices."

250 The majority of the United States Wages and Prices Committee reported in 1911 as follows —

United States  
Wages and Prices  
Committee.

“ While the actual increase in the world's gold supply has been very great, the increase in the credit based upon gold has far exceeded it. Some of our best economists estimate that there is an increase in credit of from 3 to 4, to 1 in gold. It seems certain, therefore, that this enormous increase in the standard by which all other commodities are measured has surpassed the normal increase required for the growing volume of the world's business, and if this be true, the result must be a cheapening of the standard with a consequent advance in price. In other words, the recent increase in production of the standard of value, bringing with it a still greater increase in credit, has of necessity decreased the value of the standard and thereby increased the price of the commodities which it measures. To what extent this increase of gold production has influenced prices cannot, of course, be determined, but that it has been an element in bringing about an increase in the world's prices cannot, we think, be denied ”

251 The minority of the Committee who differed substantially from the opinion of the majority in other respects remarked as follows —

“ We agree with the majority that the increase in gold supply has affected the prices of commodities, and also in their statement that it is ‘ not the dominant, or even a principal cause of the rise of prices ’. We are glad to be able to concur with the majority in a matter of such vital interest ”

“ That there has been a rise in the prices throughout the world seems to be true, but the extent of the rise has not been the same everywhere ”

“ England being practically a free-trade country, would show more accurately the general level of the advances in the price of commodities of the world caused by the increased production of gold. To what extent the rise in the price of commodities in England has been affected by causes other than the increased production of gold, we are unable to say, but it will hardly be assumed that there was no other cause ”

“ Had increased money supply been a large factor in advancing prices, we do not see why it should not act with equal force upon all commodities under like conditions as to supply and demand ”

252 The following statement shows the annual average production of gold in the world from 1493 up to 1890 in different groups of years, and thereafter, year by year, from 1891—1912. These statistics show that there has been an enormous increase in the production of gold, especially during the last decade. In the five years ending 1890, the annual average was only twenty-three millions. In the next five years, 1891—1895, it rose to thirty-three millions, and in 1896—1900 to fifty-three millions. During the years 1900—1902, there was a decline in the annual output of the Transvaal mines owing to the Boer War, but the average of the five years, 1901—1905, for the whole world rose to sixty-six millions. In the next quinquennium ending with 1910, the annual average output rose to eighty-nine millions. The figures for the last two years have been obtained from the Mining and Engineering Journal of New York. These figures show a decrease in the output of 1911, but it is believed that the figures given in the journal are under-estimates and that when the United States Mint Reports, from which the figures for the other years have been taken are available, they will show a continued increase in the last two years also. The increase, therefore, is a remarkable one. During the twenty-two years ending with 1912 the total output has been more than thirteen hundred ninety-four millions sterling against a total production of about sixteen hundred and thirty-seven millions since the discovery of America in the fifteenth century up to 1890, according to the

Statistics of pro-  
duction of gold

estimates of Soetbeer down to 1850 and of the Master of the United States Mint since that year up to 1910 and those of the Mining and Engineering Journal of New York for 1911 and 1912

*Production of gold in the world since the discovery of America*

Periods	AVERAGE ANNUAL PRODUCTION			Years	ANNUAL PRODUCTION		Progressive addition to the stock of gold in sterling
	In fine ounces	Value in sterling	Progressive addition to the stock of gold in sterling		In fine ounces	Value in sterling	
1493—1520 (28 years)	186 470	792 203	22,181,684	1891	6,320,194	26,848 575	1,663,676 097
1521—1544 (24 " )	230 194	977 975	45,653,084	1892	7,094,266	30,136,884	1,693 812,981
1545—1560 (16 " )	273 596	1,162 308	64,250,012	1893	7,618,811	32,365,181	1,726,178,162
1561—1580 (20 " )	219,006	934,203	82,934,072	1894	8,764,362	37,231,586	1,763,409,748
1581—1600 (20 " )	237 267	1,007,978	103,093,632	1895	9,615,190	40,845,920	1,804,255,668
1601—1620 (20 " )	273 918	1,163 541	126,364,452	1896	9,783,914	41,662,704	1,845,818,372
1621—1640 (20 " )	266,845	1,133,538	149,035,212	1897	11,420,068	48,513,146	1,894,331 518
1641—1660 (20 " )	231,955	1,197,654	172,988,292	1898	13,877,806	58,953,779	1,953,285 297
1661—1680 (20 " )	297 709	1 264 647	198,281,232	1899	14 837,775	63,031,803	2,016,317 100
1681—1700 (20 " )	316,095	1,470,147	227,684,172	1900	12,315,135	52,315,430	2,068,632,630
1701—1720 (20 " )	412,163	1 750,860	262,701,372	1901	12,625,627	53,634,041	2,122 266,571
1721—1740 (20 " )	613,122	2,605,946	314,820,292	1902	14,354,680	60,979,577	2,183,246,148
1741—1760 (20 " )	791,211	3,361,158	382,043,452	1903	16,852,620	67,342,905	2,250,589,053
1761—1780 (20 " )	665,666	2,778,866	438,601,172	1904	16,804,372	71,386,385	2,321,975,438
1781—1800 (20 " )	571,948	2,409,627	487,103,712	1905	18,396,451	78,149,328	2,400,124,766
1801—1810 (10 years)	571,563	2,427,983	511,473,542	1906	19,471,080	82,714,367	2,482,839,133
1811—1820 (10 " )	367,957	1,663,033	527,103,872	1907	19,977,260	84,864,636	2,567,703,769
1821—1830 (10 " )	157,014	1 941,564	546,519,512	1908	21,122,244	90,929,003	2,658,632,772
1831—1840 (10 " )	652,291	2,770 962	574,229,132	1909	21,969,303	93,326,942	2,751,959,714
1841—1850 (10 " )	1,700,502	7,478,762	649,016,752	1910	21,996,297	93,441,651	2,845,401,365
1851—1855 (5 years)	6 410,324	27,231,422	785,173,862	1911		91,875,000	2,937,276,635
1856—1860 (5 " )	6,486 262	27,554,057	922,944,117	1912		93,923,000	3,031,199,365
1861—1865 (5 " )	5 919,522	25 274,240	1,049,315 347				
1866—1870 (5 " )	6 270 086	26,635,677	1,182,493,732				
1871—1875 (5 " )	5,591,014	23 751,074	1,301,249,102				
1876—1880 (5 " )	5,543 110	23 517,423	1,418,986,217				
1881—1885 (5 " )	4,794 775	20,368 338	1,520,827,907				
1886—1890 (5 " )	5 161 282	23,199,923	1,636,827,522				

Uses of gold

253 The whole of the gold produced each year does not, of course, go into currency. The usages of gold are generally held to be four, *viz*, (a) for the arts, (b) for hoarding, (c) for circulation, and (d) for bank reserves. The supply as regards the arts has clearly no effect on prices, and if gold is hoarded it has much the same effect on prices as if it had remained in the mines. It is only the amount used as currency and that held in bank reserves that have an effect on prices.

254 It is difficult to make a satisfactory estimate of the gold consumed in the arts and the industries. Many distinguished authorities have made investigations in this matter from time to time, but have not been able to come to any satisfactory conclusion. Upon the information available, the United States Mint has made an estimate of the annual consumption in the arts and the industries of the world excluding Asia and Africa. These estimates are, however, admittedly inconsistent and unsatisfactory in many respects. Prof W T Layton, Newmarch Memorial lecturer in Statistics of the University College, London, says, "large quantities (of gold) are used by industries of various kinds—the proportion which finds its way into the arts, as compared with the amount used as currency being dependent on the extent of the demand for gold as material at the current value of gold. It is difficult to ascertain how much of the world's supply is used in industry, for gold is continually transferred from one employment to another. But a recent estimate by the Master of the United States' Mint shows that in 1907 the new material used for industrial purposes throughout the world amounted to about one-third of the world's production in that year." But this estimate has

very little basis and it is largely a matter of conjecture how far the enormous increase in the world's gold supply has had the effect of stimulating gold using industries "

255 It is also difficult to frame any reliable estimate of the total quantity of gold hoarded in the different countries of the world The net amount of gold imported into India from 1898-99 to 1911-1912 has amounted to £110,000 000 This with the total output of gold in India itself during the period gives a total of £140 000,000 as the value of gold absorbed in India during the fourteen years Almost the whole of it, with the exception of only a few millions held in the currency and other reserves and in active circulation, has been hoarded In other words, India alone has hoarded about fifteen per cent of the world's production of gold during the fourteen years ending 1911-12 There are many other countries also, Egypt in particular, which have hoarded large amounts The amount of gold absorbed by Egypt during 1890 to 1910 has been estimated at £30,000,000

256 The table below shows the additions in gold to the Bank and other reserves of some important countries during the twenty-one years, 1890—1910

*Additions in gold to the Bank and other reserves of some important countries*

Banks and Treasuries	31st December 1890	31st December 1899	31st December 1910
	£	£	£
Bank of England	17,784,000	29,002,000	31,095,000
Scotch Banks of Issue	4,591,000	6,227,000	4,918,000
Irish Banks of Issue	3,480,000	2,816,000	3,649,000
Germany—Imperial Bank	12,234,000	22,939,000	32,760,000
Germany—German War Fund	5,869,000	5,869,000	5,869,000
Austria-Hungary	5,426,000	43,982,000	54,971,000
Bank of France	50,471,000	74,310,000	130,050,000
Bank of Spain	6,009,000	13,485,000	16,301,000
Bank of Portugal	1,028,000	1,075,000	1,348,000
Bank of Netherlands	5,069,000	3,730,000	10,391,000
National Bank of Belgium	2,606,000	4,329,000	5,037,000
Bank of Italy	} 18,132,000	15,702,000	38,670,000
Bank of Naples			8,031,000
Bank of Sicily			2,261,000
Bank of Russia	42,565,000	90,275,000	130,288,000
Bank of Finland	861,000	888,000	873,000
National Bank of Roumania	2,011,000	1,444,000	4,759,000
National Bank of Bulgaria	426,000	127,000	1,254,000
National Bank of Servia	345,000	286,000	992,000
Imperial Ottoman Bank	740,000	1,384,000	6,171,000
Royal Bank of Sweden	1,379,000	2,195,000	4,482,000
National Bank of Denmark	2,754,000	3,249,000	4,085,000
National Bank of Norway	1,755,000	1,775,000	1,904,000
Banks of Switzerland	2,364,000	3,890,000	6,187,000
Bank of Greece	21,000	79,000	40 000
United States—In National Banks	17,348,000	41,860,000	46,849,000
"    In State Banks	5,306,000	16,400,000	16,323 000
"    In the Treasury	64,459,000	82,279,000	226 731,000
Bank of Australia	18,465,000	21,862,000	37,915,000
Canadian Treasury and Banks	1 505,000	4,651,000	22,235,000
Banks of South Africa	1,028,000	6,740,000	10,357 000
<b>TOTAL</b>	<b>296,031,000</b>	<b>503,850 000</b>	<b>866,856,000</b>

Net imports of Gold  
in different  
countries

257 Information regarding the net additions to the stock of gold in these countries, *i.e.*, the net imports *plus* the production of gold, is not, however, available for all of them. The table below gives the information only for those countries for which it is available

*Net additions to the stocks of Gold in important countries for which statistics are available*

(In hundreds of thousands of pounds sterling)

Year	United Kingdom	United States	Germany	France	Italy	India	TOTAL	Increase + Decrease -
1890	+9,3	+6,0	+3,0	-5,3		+4,7	17,7	
1891	+6,0		+5,0	+5,1		+2,2	18,3	
1892	+6,6	-5,0	+1,4	+11,1	-1,0	-1,1	12,0	
1893	+4,7	+6,0	+1,9	+7,5	-4,9	+1,2	16,4	
1894	+11,9	-8,0	+12,6	+14,2	-4	-1,9	28,4	
1895	+14,6	-4,5	+8	+4	-9	+2,4	12,8	
1896	-5,6	+20,2	+1,1	-4	-7	+2,6	17,2	
1897		+11,7	+1,8	+6,4	-4	+4,7	24,2	
1898	+7,1	+41,6	+5,2	-4,6	-8	+5,9	54,4	
1899	+11,0	+15,8	+6,8	+6,3	-6	+6,0	45,3	
1900	+7,7	+18,8	+6,4	+5,3	-1,0	+2,4	39,6	
1901	+6,7	+15,6	+10,3	+11,4	-7	+3,2	46,5	
1902	+6,2	+18,1	+1,6	+12,5	+1,8	+7,8	48,0	
1903	+9	+19,3	+9,5	+7,4	+10,7	+8,9	56,7	
1904	+8	+9,3	+19,4	+21,3	+1,8	+8,9	61,5	
1905	+7,7	+18,8	+9,0	+25,9	+12,0	+2,7	76,1	
1906	+3,4	+41,2	+13,4	+10,8	+8,7	+12,2	89,7	
1907	+6,2	+36,2	-8	+11,6	+10,9	+13,7	77,8	
1908	-3,8	+13,2	+15,4	+39,8	-1	+5,1	69,6	
1909	+7,4	+2,6	+2,6	+14,4	-2,2	+16,7	41,5	
1910	+6,4		+17,6	+4,6	-1,5	+18,3	45,4	
TOTAL	115,2	276,9	144,0	205,7	30,7	126,6	899,1	

Absorption of Gold  
for purposes other  
than the addition to  
Bank reserves

258 The net amount of gold absorbed in these countries, during the years 1890—1910, for purposes other than increasing the bank and other reserves may then be deduced from the two foregoing tables

	Net addition to stock of gold	Addition to reserve	Net absorption for other pur- poses
United Kingdom	115,200,000	13,807,000	101,393,000
United States of America	276,900,000	202,790,000	74,110,000
Germany	144,000,000	20,526,000	123,474,000
France	205,700,000	79,579,000	126,121,000
Italy	30,700,000	-10,041,000	40,741,000
India	126,600,000	6,500,000	120,100,000
TOTAL	899,100,000	313,161,000	585,939,000

Addition to Bank  
Reserves less than  
half the total  
production of Gold

259 Thus, these few countries alone have absorbed for other purposes, more than £585,000,000 of gold during the twenty-one years, against a total produce of £1,243,000 in the whole world. The United States Mint gives the following

estimate of the total amount of gold diverted from monetary use or so employed that apparently it would not be directly effective upon world prices

	£
Industrial consumption in the world except Asia and Africa	196 900,000
India	89,000,000
Egypt	30,000,000
Japan	14,200,000
South America	70,500,000
Mexico	5,900,000
<b>TOTAL</b>	<b>406,500,000</b>

This clearly shows that, out of the world's total production of gold, the amount utilised for the purposes of currency and bank reserves is considerably less than half the total quantity of the gold produced

260 It should be remembered that in recent years there has been an increased demand for gold as currency not only in consequence of an extraordinary growth of business in countries in which banking and credit has not developed to the same extent as in the most advanced countries of Western Europe and the United States, but also because many countries in which silver was formerly the standard of value have recently adopted gold as their legal standard. Thus, Costa Rica adopted a gold standard in 1896, Russia and Japan in 1897, Ecuador in 1900, Panama and Columbia in 1903 and Mexico in 1905. With the increase in gold production, there has thus been a large increase in the demand for gold currency.

261 Argentina and Brazil have also accumulated during the last decade heavy reserves of gold as the basis for their paper currencies. The stock in the conversion fund and in the National Bank of Argentina is estimated to have increased during the 10 years ending with December 1910 by £42,400,000. The stock in the conversion fund of Brazil is also estimated to have increased during the same period by £18,200,000. Uruguay has also imported a large amount of gold during this period, but it is believed most of this has ultimately reached Argentina. Director Roberts of the United States Mint says —“ It is probably fair to estimate that altogether South America during the second period has increased its gold holdings by the amounts now in the conversion funds of Argentina and Brazil, or, in round figures, £70,500,000. This gold has been taken for the reorganization of monetary systems. It has not entered into circulation nor has there been any material increase in the amount of paper currency outstanding ”

262 ‘ The use of gold as a reserve against paper currency, thus affording a stable basis for the exchanges, is undoubtedly beneficial to trade and industry and particularly favourable to international trade and investments, but the influence of development in these new countries, chiefly devoted to agriculture and the production of raw materials, would seem to be for a downward rather than an upward movement of world prices. The exports of Brazil and Argentina consist of coffee, cocoa, rubber, tobacco, cotton, wheat, corn, linseed, wool, hides and leather, live stock and meats, all of which commodities are important factors in price tables. Although the market course of these products has been upward, the influence of these countries upon their prices has been unmistakably downward ”

263 Gold coin is no longer accumulated in a few important centres, but is becoming diffused all over the world. The total amount of goods and services that have to be paid for throughout the world in any year is, however, so vast that the annual addition to the gold currency of the world would be but trifling. Taking Clearing House returns into account, in 1907 alone the transactions of the

Increased demand for Gold as currency

Accumulation of Gold stock in South America

Direct effect of increased supply of Gold on prices not very great

London Clearing Banks amounted to £12 730 000,000 and of the German Clearing Houses to £2 218 000,000, Paris Clearing Houses to £1,036,000,000, the Clearing Houses of the five principal cities of the United States to £29,836,000,000, a total of £15 820,000,000. The total transactions of the world would thus amount to many thousands of million pounds sterling. Compared with this, the annual additions to the gold currency of the world would be very small indeed and would not raise general prices by more than a very small fraction of 1 per cent at the most. The effect would also not be cumulative, for when the first influence of the addition had once been exercised in producing a trifling rise of world's prices, the higher price level would absorb the enhanced stock of money, in conducting the same volume of transactions as before, at the higher level of prices. The direct effect of the increased production of gold in raising prices is not therefore, very great. It is only by its indirect effect in enlarging the volume of credit to a substantial extent that its effect on prices becomes appreciable.

*Statement showing the Clearing House transactions of some cities and countries of the world*

Years	AMOUNT IN MILLIONS					INDEX NUMBERS				
	London Clearing Banks	German Clearing Houses	Paris Clearing Houses	Principal Cities in United States of America	India— Calcutta Bombay and Madras	London Clearing Banks	German Clearing Houses	Paris Clearing Houses	Principal Cities in United States of America	India— Calcutta, Bombay and Madras
	£	Marks	Francs	Dollars	R					
1890	7,801	17,991	6,004	60,623	1,37,75	115	101	111	108	94
1891	6,848	17,663	4,869	56,718	1,16,50	101	100	90	102	100
1892	6,482	16,763	4,715	62,109	1,43,81	96	94	87	111	98
1893	6,478	18,123	5,370	54,323	1,46,08	95	102	99	97	100
1894	6,332	18,233	6,144	45,686	1,58,34	93	103	113	82	108
1895	7,593	21,121	7,352	53,348	1,75,79	112	119	136	95	120
1896	7,775	22,720	7,550	51,333	1,81,23	112	128	139	92	124
1897	7,491	24,017	8,546	77,403	1,90,73	110	135	158	103	130
1898	8,097	27,975	9,568	68,931	1,76,25	119	158	176	123	120
1899	9,150	30,238	10,656	94,178	2,02,55	135	170	197	160	138
1900	8,960	29,473	10,661	86,205	2,12,35	132	166	197	154	145
1901	9,561	28,922	9,965	118,579	2,11,19	141	163	184	212	144
1902	10,029	29,969	10,816	118,023	2,29,19	148	169	199	211	157
1903	10,120	31,137	11,833	109,209	2,43,91	149	175	218	195	166
1904	10,564	32,635	13,897	112,621	2,51,07	156	184	256	201	171
1905	12,288	37,603	17,855	143,909	3,00,45	181	212	329	257	205
1906	12,711	42,036	24,809	160,019	3,31,18	187	237	458	286	226
1907	12,730	45,313	26,095	115,175	3,66,38	188	255	481	260	250
1908	12,120	45,961		132,108	3,56,20	179	259		237	213
1909				165,608	3,61,00				296	246
1910					4,10,08					280
1911					4,54,51					310
1912					5,16,78					353

#### DEVELOPMENT OF CREDIT.

261 The importance of the development of credit as affecting world's price levels has been emphasised of late by many economists and writers on prices. The "Statist" said—

"What really does determine prices is credit. Prices rise when there is an eagerness to buy, prices fall when there is an unwillingness to buy, in other words when credit is good prices are high, when credit is bad, prices are low. Credit, in its turn, is determined partly by the general feeling of the times, and partly by the ability or inability of the banks to lend freely."

262 There can be no doubt that in the world of business the organisation of credit has been greatly increased and perfected in recent years. This increased output of credit has been supported and facilitated by the increased supply of gold, but it has been actually brought into play by a combination of

Views of the  
"Statist" on de-  
velopment of credit  
affecting world's  
prices

Great development  
of credit in the  
world

increased credibility and an increased demand for credit resulting from a great development of profitable economic enterprises upon a larger business scale simultaneously in a number of new areas of enterprise

266 A most important cause for the increased credibility is that a large proportion of modern businesses has taken a financial form that makes their assets available as security for credit. The substantial economic resources of a country, its rich and fertile lands, its houses, factories and other buildings, its machinery and plants, the materials, finished commodities and the goodwill which form the marketable wealth of a community, constitute the chief basis of the credit which bankers and others create and supply. Until comparatively recent times, only real property in a few secure countries and a very few forms of personal property were available as effective pledges. One of the principal reasons why so many private businesses have reconstituted themselves as Joint-stock Companies, and why the corporate form has been taken by almost all large new capitalistic enterprises, is that, thereby, they are enabled to utilise their stocks and shares as a credit basis. The general result has been that in recent years a rapidly increasing proportion of the aggregate wealth of most communities has become available as bank security. Increased credibility.

267 The opening up of large new, genuine areas of over-seas investment has generally given a stimulus to that profitable business which, with brief and partial interruptions, has prevailed since the middle of the last decade of the nineteenth century. The capitalistic development in Argentina, Brazil and other South American countries, the discovery of natural values in North-West Canada, the immense impetus given to the mining, metal and other manufacturing industries of the United States, the entering of Japan upon a new industrial career, really account for the increased demand for credit. An immense quantity of this credit has been manufactured in America, the population, wealth and business development of which have proceeded with unprecedented celerity during the last fifteen years. In other civilised countries of the world, the desire to participate, to the utmost extent, in the exploitation of the rich, newly discovered resources of distant lands and in the profitable home trade resulting therefrom, has brought about an abundant use of the machinery of credit. Increased demand or credit

268 In a paper which he read before the Royal Statistical Society in December 1910, to which reference has been made elsewhere, Sir George Paish gave the following statistics of the capital subscribed in London for investment in Colonial and foreign countries up to the end of 1907 and during each of the three years 1908, 1909 and 1910. Of the total amount subscribed, 53 per cent has been invested in the Americas, 16 per cent in Asia, 14 per cent in Africa, 12 per cent in Australasia and 5 per cent in the continent of Europe. The total amount for each of the different continents has been as follows — Sir George Paish's estimate of capital invested by England in different countries

	Up to 1907	1908 10	Total
	£	£	£
America (North and South)	1,385,599,000	314,401,000	1,700,000,000
Asia	415,490,000	84,510,000	500,000,000
Africa	411,550,000	43,450,000	455,000,000
Australasia	360,878,000	26,122,000	387,000,000
Europe	101,622,000	48,378,000	150,000,000
<b>TOTAL</b>	<b>2,675,139,000</b>	<b>516 861,000</b>	<b>3,192,000,000</b>



in estimating the total amount which Great Britain has supplied to other nations Sir George Paish took no account of the large sum, termed private capital which is employed abroad by the British people in a variety of ways such as the purchase of land loans on mortgage, deposits in banks, branch manufacturing, mercantile and trade undertakings, etc. If these be included, the total sum, invested in other countries, would amount, according to him, to £3 500,000,000. An idea of the enormous magnitude of the demand for credit, in recent years, may be formed from the fact that no less than £517,000,000 were subscribed in London alone for investment in colonial and foreign countries and that of this, a very small portion was taken up by European countries and that the investment of the three years is more than one-sixth of the total amount found by England for the same purpose up to the end of 1910.

269 Along with the expansion of credit, the main basis of credit there has been a great extension and improvement of the banking and financial system, which has penetrated into fresh countries and into fresh strata of population. The following statement shows the growth of banking capital and deposits in England, Germany, France and the United States of America. A study of these figures will show that the growth of banking capital and deposits also has been enormous during the last fifteen years.

*Growth of Banking and deposits in Banks in India compared with that of the most advanced countries of the world*

[In millions of pounds sterling]

Years	CAPITAL AND RESERVE FUNDS						DEPOSITS					
	England	France	Germany	United States	India	Total	England	France	Germany	United States	India	Total
1890	168	31	65	257	4	525	754	91	74	619	19	1,557
1891	176	31	67	271	4	552	789	92	76	621	18	1,596
1892	176	30	67	286	3	562	807	93	76	726	16	1,718
1893	176	30	68	296	3	573	801	90	76	668	15	1,650
1894	169	32	69	292	3	565	780	109	98	716	15	1,718
1895	174	34	74	297	3	582	817	106	110	738	17	1,788
1896	180	36	79	299	4	589	917	112	110	729	17	1,885
1897	186	36	94	284	1	604	934	118	125	781	17	1,975
1898	194	37	109	283	5	628	941	122	147	928	18	2,156
1899	197	39	123	280	5	644	967	132	164	1,173	20	2,456
1900	205	46	126	302	5	684	1,043	138	171	1,258	21	2,631
1901	241	47	127	320	5	740	1,151	156	176	1,516	24	3,023
1902	247	48	128	365	5	793	1,182	149	193	1,638	28	3,190
1903	251	51	134	414	5	855	1,246	163	210	1,718	30	3,367
1904	258	52	143	446	5	904	1,242	208	242	1,839	33	3,564
1905	273	55	157	471	5	961	1,318	211	281	2,104	34	3,948
1906	277	58	164	516	6	1,021	1,395	235	327	2,242	38	4,237
1907	285	61		567	6		1,456	208	346	2,436	41	
1908	297			591	7		1,479			2,390	46	
1909				584	7					2,644	49	
1910					7						55	
1911					7							

Increase in the rate of interest

270 The enormous increase in the production of gold has been accompanied by an increase in the prevailing rate of interest, as indicated by the following table. This has led not a few to believe that, money not having become cheaper, the influence of an abundant supply of gold on prices has been counteracted by other stronger forces. The development of credit is not, however, usually brought about by a lowering of the rate of interest but by an increase in the demand for credit. Credit may be dearer, notwithstanding a large increase in the gold supply which, in ordinary circumstances, enables a larger credit to be created. What has actually happened is that the expansion of the demand for credit has been so great that, in spite of the tendency of abundant gold in lowering its price,

that price has actually risen, and in spite of the rise, the enhanced demand has been maintained. The actual rate of interest also depends, in some measure, upon the estimates formed in men's minds of what the future production of capital will be, so that, in optimistic times, a high rate of interest is prevalent, the reverse being the case when pessimistic views hold the field. Because there existed genuine causes for trade prosperity and good profits, business men were willing and able to pay high prices for money which they reckoned they could put to profitable use. The increased demand for credit and the consequent rise in the rate of interest are due to the wonderful expansion of industrial enterprises which began more than a decade ago, and to the fact that the whole world is now looked upon as a field for safe investment.

*Statement of Average holdings of gold and discount rates in the most important countries*

Years	AVERAGE HOLDINGS OF GOLD (In millions of pounds sterling)				DISCOUNT RATES			
	Bank of England	Bank of France	Reichsbank	United States Treasury	Bank of England	Bank of France	Reichsbank	United States Treasury
1890	22	50	25	64	4.5	3	4.5	5.8
1891	24	56	29	55	3.3	3	3.8	3.4
1892	25	62	30	53	2.5	2.7	3.2	3.1
1893	26	67	26	39	3.1	2.5	4.1	4.6
1894	34	72	30	30	2.1	2.5	3.1	1.1
1895	39	81	34	28	2	2.1	3.1	1.8
1896	44	78	29	32	2.5	2	3.7	4.3
1897	35	78	29	38	2.6	2	3.8	1.8
1898	33	74	29	49	3.2	2.2	4.3	2.2
1899	32	74	28	64	3.8	3.1	5	5
1900	33	84	28	89	4	3.2	5.3	2.9
1901	36	96	32	105	3.7	3	4.1	4
1902	35	101	35	117	3.3	3	3.3	5.2
1903	34	99	32	133	3.8	3	3.8	3.9
1904	34	102	33	143	3.3	3	4.2	1.8
1905	35	113	36	148	3	3	3.8	4.4
1906	33	114	33	168	4.3	3	5.1	6.4
1907	34	107	31	189	4.9	3.5	6	7.4
1908	37	121	38	209	3	3.1	4.8	2
1909	37	145	40	214	3.1	3	3.9	2.7

### EFFECT OF WARS ON PRICES

271 Another important factor which has contributed largely to the rise of prices is the great wars which have taken place in quick succession during the last fifteen years. In periods of war, a large part of the supplies of capital and labour, which would otherwise be devoted to the extension of railways, the opening up of new lands, the erection of factories, etc., is diverted to unproductive purposes, and at the same time consumption is stimulated by the expenditure involved by the wars. The wars with Napoleon raised the cost of living enormously during the early years of the nineteenth century. In the same way, the Crimean war, the Indian Mutiny, the Italian war, the American Civil war and the German wars with Denmark, Austria and France prevented production from overtaking consumption and caused prices to be maintained at a high level, notwithstanding the immense improvements in the methods of transportation and of production that took place during the period. In the eighties, a period of unbroken peace

Great wars have contributed largely to the rise of prices.

occurred railways were built up on a vast scale, immense tracts of new lands were opened up and production was increased by leaps and bounds and the progress of science permitted the world's output of goods to be transported from the producing to the consuming districts at a rapidly declining cost. Thus a long period of peace contributed in no small measure, to the abnormally low cost of living in the nineties. In 1898 the long period of peace was broken by the Spanish-American war. Following upon this came the South African war and, not long after this, the Russo-Japanese war. These struggles caused an unproductive expenditure of about nine hundred millions of pounds sterling, stimulated consumption and prevented production to keep pace with the growth of demand. The result was a great increase in demand in proportion to the supply and a marked advance in the prices of commodities.

Sir Francis Webster  
on the effects of  
war

272 "The first thing," said Sir Francis Webster, an eminent business man of long experience, at the last meeting of the British Association, "to break the calm and apparently to arrest what seemed an endless downward course of prices was the American-Spanish war. The first thing to move the price of such articles as cotton and leather goods—I speak of such things as I know—was the war demand for these. The Boer war and Russo-Japanese war followed in quick succession. There was feverish activity in many articles, with great consumption and great waste, and great displacement of capital. The stocks of many articles have never recovered the drain on them. In our own local business, stocks of heavy linen goods, that had lain and weighed down the market for years, were swept out. The same thing happened with heavy cotton goods, and the demand for saddlery could hardly be met. The same cause must have produced similar effects in many other branches of trade. The higher level is in evidence in every kind of product, whether in raw material or manufactured goods. The security begotten of long peace has been lost, and there seems little prospect of its early recovery. Warlike expenditure has been growing apace. Nothing nearer to a state of war, without war, has perhaps ever been seen. Alarm follows alarm. Expenditure tops expenditure in the most onerous of all peace pursuits in the gigantic preparation for war."

Wastage of capital  
in the present war  
in Eastern Europe

273 The wastage of capital may be illustrated from the present war in Eastern Europe. Allowing for food and ammunition consumed by the belligerents and the property destroyed by them, together with the additional expenditure on some 400,000 men who were already under arms before mobilisation, the weekly loss of capital comes to a million sterling. Moreover, every able-bodied man, killed or wounded in war, constitutes another loss of capital. A recent writer has assessed the loss of each man at £250, assuming that the average conscript can earn £25 a year, and that his life is worth 10 years' purchase. The following is the estimate of the cost of the belligerents, excluding the loss of lives, and the total existing debt of each State, as published in the 'State-man's Year-Book':

	Men in the field	Estimated monthly cost (30 days)	Total existing debt
		£	£
Bulgaria	300,000	4,500,000	24,407,976
Russia	200,000	3,000,000	26,937,320
Montenegro	40,000	600,000	250,000
Greece	60,000	900,000	27,313,210
Turkey	500,000	7,500,000	131,173,879

274 The destruction of wealth involved in many recent wars has been accompanied by an enormous increase of expenditure on armaments throughout the world. This involves a double waste from the standpoint of the production of marketable goods. On the one hand, it has removed millions of able-bodied workers from productive employments into the military and naval services. On the other, it has caused millions of industrial workers to expend their labour in making military and naval apparatuses instead of making the goods upon which the money spent on armaments would have been spent had it been left in the pockets of the tax-payers or been applied by governments to productive services. Thus war and militarism, involving expenditure upon an increasing scale, are responsible, for no inconsiderable part, of the rise of prices by the waste of the productive forces they involve.

#### OTHER CAUSES.

275 The influence of industrial and commercial combinations upon the volume of production should also be noticed. The rapid rise of Trusts, Cartels, Conferences, Pools and other forms of trade combination or agreement must also have contributed to the rise of prices. The normal result of the formation of combines is to restrict the rate of production, making it lower than it would have been under the influence of free competition. Then, there is a great and growing waste involved in the struggle to market the goods that are produced. In every country there is a rapid increase in the proportion of persons engaged in trying to sell the goods. Nor can we ignore the heavy expenditure upon luxurious goods and services which is absorbing an increasing share of the general income in the richest countries. The sinking of a large and growing proportion of newly created capital and labour of the world in new and backward countries, means the application of a vast amount of productive energy to kinds of work, the full fruitfulness of which takes a long period of time to mature. If several hundreds of millions of fresh capital each year, which might have gone to promote agriculture and manufactures, have gone into laying the deep foundations for a future career of agriculture and manufacture in backward lands, we should expect that this restriction of immediate productivity would have some not inconsiderable influence in raising prices.

276 The rapid growth of over-seas investments has involved immigration during the last fifteen years from Europe into the countries of North and South America and elsewhere of enormous masses of manual labourers, which means a large transfer of working population from food production in Europe on a low standard of food consumption to industrial employment in America upon a far higher standard of food consumption.

277 The mileage of new railways now under construction in agricultural countries is greater than it has been for many years, and the influx of settlers is on a vast scale. The progress of railway construction at such a rapid rate is being followed by other auxiliary works, namely, the building of farm houses, the laying out of towns, the construction of roads, etc., and it is no wonder that consumption should increase more rapidly than production.

## CHAPTER IX.

### Examination of the supply of and demand for some important commodities.

Special features  
in the rise in prices  
of particular  
commodities

278 Apart from the causes mentioned in the last three chapters, which affect prices of commodities generally, there are, it is well known, causes which affect particular commodities or classes of commodities. Otherwise, the variations in the price level of the different commodities would have been the same instead of being widely different, as they are. In dealing with the causes which have led to the rise of prices, it is, therefore, necessary to examine each commodity separately. It will, however, neither be convenient, nor interesting, to deal exhaustively with all the commodities included in the long price-list published with the report, and it will be sufficient if the causes affecting some important commodities only are explained. The commodities dealt with below are —rice, wheat, sugar, cotton, jute, hides and skins and ghee and milk.

#### RICE

India's surplus of  
rice

279 India, including Burma, produces a little less than half the world's output of rice and has, in normal years, a large surplus available for other countries. More than three-fourths of this surplus is, however, ordinarily contributed by Burma, though it produces only slightly more than one-tenth of the total amount grown in India. The area under the cultivation of rice in Burma is growing rapidly every year and it can generally spare four-fifths of its rice for other countries and for India proper, when the supply is deficient there. India proper grows an enormous quantity of rice, but in the absence of any large expansion of the growth, consumption is overtaking production. In favourable years, it can spare for other countries only about 2 per cent. of its total production, but in unfavourable years the production is insufficient to meet even its own internal demand, so much so that a large quantity has to be imported from Burma to make good the deficiency. In India proper, by far the largest quantity is grown in Bengal, but the area is not expanding, jute being the more favourite crop with the cultivator. A considerable portion of the surplus of India, as a whole, is usually exported to Europe, where it is used for food and for the manufacture of spirits and starch, and has to compete with the rice of other countries and with a number of other grains, namely, oats, rye and maize, and even with beet and potatoes. The other important countries to which Indian rice is exported are Ceylon, the Straits, Mauritius, Reunion, East Africa, Brazil and the West Indies, where it forms the chief article of food of the Chinese and the other Asiatic races. Japan also sometimes imports Indian rice, although it grows a considerable quantity itself, but when the crops are deficient it has to fall back upon the rice grown in Burma and other eastern countries. The demand for Indian rice in foreign countries is thus always fairly large and the prices in India depend more on the Indian supply than upon fluctuations in the foreign demand. In Burma, which, as mentioned above, usually supplies the greater part of the surplus available in India for export, the monsoon rains never fail and the rice harvest is, generally, good. But a failure of the monsoon in India, by no means an uncommon phenomenon, diminishes the supply in India proper to so substantial an extent that a demand for rice from Burma is at once created at prices to which foreign markets do not respond, and immense quantities of Burma rice which would, in an ordinary year, be exported to foreign countries are deflected to the Indian markets. There may, thus, be a rise in the price in India even in the absence of a corresponding rise in the external markets.

280 The following statement shows the production, export, import and net available supply of rice in British India, excluding Burma, and the index numbers of the Rupee price, year by year, from 1890-91 to 1911-12 —

*In Thousands of Maunds*

Years	Total production	Total Imports	Total Exports	Net Exports	Net available supply including wastage and requirements for seeds	Index No of column 2	Percent age of column 6 to column 2	Percent age of column 3 to column 2	Index No of Rupee prices (a)
1	2	3	4	5	6	7	8	9	10
1890 91	68,21,63	20,44	1,38,95	1,18,51	67,03,12	92	98.3	2.0	95
1891 92	56,58,07	10,90	1,42,66	1,31,76	55,25,31	76	97.7	2.5	107
1892 93	75,70,01	25,16	1,27,91	1,02,75	74,67,26	102	98.6	1.7	105
1893 94	82,44,29	73,15	1,18,84	45,69	81,99,23	111	99.1	1.4	98
1894 95	88,11,35	60,47	1,53,38	92,91	87,18,44	119	98.9	1.7	91
1895 96	74,17,48	31,66	1,41,25	1,09,59	73,04,89	100	98.5	1.9	109
1896 97	50,08,72	85,65	1,20,25	34,60	49,74,12	67	99.3	2.1	131
1897 98	87,68,09	1,63,68	1,15,76	-47,92	88,16,01	118	100.5	1.3	108
1898 99	91,35,86	85,23	1,61,17	76,98	90,59,92	123	99.2	1.8	95
1899 00	72,00,10	1,79,73	1,42,93	-36,80	72,36,90	97	100.5	2.0	114
1900 01	74,32,05	2,78,49	1,34,50	-1,43,99	75,76,01	100	101.9	1.8	113
1901 02	68,70,64	1,81,45	1,32,49	-48,96	69,19,60	93	100.7	1.9	166
1902 03	81,47,74	1,05,88	1,43,63	37,75	81,09,99	110	99.5	1.8	104
1903 04	78,22,72	45,45	1,57,34	1,11,89	77,10,83	105	98.6	2.0	99
1904 05	77,20,97	73,14	1,59,55	86,41	76,34,56	104	98.9	2.1	108
1905 06	74,60,11	1,12,94	1,56,07	43,13	74,06,98	100	99.4	2.1	130
1906 07	76,23,62	2,01,61	1,39,60	-62,01	75,85,93	101	100.8	1.9	115
1907 08	59,95,06	2,36,73	1,22,25	-1,14,18	61,09,54	81	101.9	2.0	161
1908 09	67,66,33	2,85,88	1,13,61	-1,72,27	69,38,60	91	102.5	1.7	138
1909 10	84,13,45	2,40,87	1,31,04	-1,09,83	85,23,28	113	101.3	1.6	122
1910 11	82,36,49	1,33,69	1,52,26	18,57	82,17,92	111	99.8	1.8	129
1911 12	79,51,38	56,03	1,88,57	1,32,54	78,18,84	107	98.3	2.4	140

(a) The crop of any official year affects the price for the next calendar year (i.e., the crop for 1890 91 would affect 1891 prices), therefore, in this column the index numbers commence from that of 1891 and end with 1912

281 The harvest in India in 1891 was very poor and prices naturally rose in 1892. There was too a failure of the harvest in Europe, thereby increasing the demand for Indian rice as prices of the cheaper grains of Europe rose so high as to prevent them from competing with Indian rice in the manufacture of spirits and starch. In the next three years, the total outturn of rice in India rapidly increased and there was a gradual fall in prices, until in 1895 it reached a level several points below the average of the preceding five years. The fall was accentuated by a decrease in the demand from Europe where, owing to an abundant harvest, the cheaper grains competed successfully with Indian rice notwithstanding the lower level of prices. In 1896, there was a widespread failure of the crops in India and prices rose unusually high in 1897, to which the prices in Europe did not respond. The deficiency in India was met by large imports, chiefly from Burma, which amounted to no less than twenty-five millions of maunds in the two years. In 1897 and 1898, the Indian harvests were good specially in the latter year and prices gradually fell very low, notwithstanding a large demand from Japan to supplement a deficient harvest there. In 1899, the rice crop was again deficient though not to such a serious extent as in 1896, but the deficiency in the other crops was serious and the result was a large increase in prices in 1900. Exports fell off, while imports from Burma and other countries rose to eighteen millions of maunds. In 1900 and 1901 also, the crops were below the normal, and exports continued to be restricted while there was a large increase in the imports from Burma and other places and prices continued high. In 1902, there were bumper crops and in the two following years the crops were about normal. Exports were stimulated specially in consequence of the failure of crops in Japan and Southern China and imports gradually fell and prices continued to fall until 1904, when they dropped below the level of the base period, notwithstanding the fact that there was an exceptionally heavy demand in that year.

from Japan where, in consequence of the Russo-Japanese war, enormous quantities of rice were imported from Burma, Bangkok and Saigon. In 1905 and 1906, the rice harvest in India was below the normal, but not to a serious extent. Still there was an enormous increase in prices in 1906 and 1907. This was the result not so much of a failure of the rice harvest as of other crops in considerable parts of India, chiefly bajra, jowar, ragi and maize, which led to the substitution of rice as the main article of food in many parts of India where the other grains are ordinarily used. This is clear from the fact that the imports of rice from Burma to India again assumed large dimensions in those years. In 1907, there was a widespread failure of crops in considerable parts of India and the price of rice in 1908 was unusually high, the level reached in that year being the highest on record. The import from Burma was also highest in 1908-09, and higher than most other years in 1907-08 and 1909-10. The years 1909 and 1910 were very good all round and prices fell, but still the supply was not sufficient to meet the demand in 1909-10, as would appear from the fact that the imports of that year exceeded the exports by a considerable amount. The outturn in 1911 was again short and prices have risen again in 1912, more specially in consequence of a shortage in China, Japan, Saigon, Java and the Philippines. It seems that India proper is gradually ceasing to be an exporter of rice and approaching the stage when it will have to obtain supplies of it regularly from Burma and other countries. It should be no wonder, then, that the prices of rice in India should be rising higher and higher.

#### WHEAT

India's surplus of wheat

282 With the extension of irrigation, the cultivation of wheat in India is growing year by year, but the total quantity of wheat produced is less than one-third the total production of rice in British India, excluding Burma. The consumption of wheat in India is, however, restricted to certain special areas and to the well-to-do classes in some of the other areas. India is thus able to spare 10 to 15 per cent of its total production of wheat for other countries, unless unfavourable agricultural conditions reduce the supply to an abnormally low level, when not only do exports to foreign countries shrink to very small dimensions but the supply also becomes insufficient to meet the internal demand, and consumers of wheat have to take recourse to rice and other kinds of food-grains. Foreign wheat can hardly ever compete with the other grains of India, and is, therefore, seldom imported to any substantial extent.

European demand exercises important influence on wheat prices

283 The foreign demand for Indian wheat is essentially different from that for Indian rice. Indian wheat is ordinarily inferior to the wheat grown in Russia, the United States, Argentina and the other great wheat-exporting countries of the world. It does not actually compete with the wheat of these countries but is required outside India only to supplement deficiencies. Apart, therefore, from internal conditions affecting the supply, the exports are subject to violent fluctuations arising out of variations in the supply in other countries. In one year the demand will be very large and, even if the Indian harvest is abundant, prices will rise; in the following year, the foreign demand may be largely reduced owing to abundant supplies from Russia, the United States and other exporting countries, and, even if the harvest in India be deficient, prices might fall. The European demand, therefore, exercises a very important influence on the price of Indian wheat.

Statistics of production and Indian exports and imports

284 The following statement shows the production, export, import and net available supply of wheat in British India excluding Burma, and the index numbers of the gold price of wheat in India, year by year, from 1891 to 1911. The wheat harvest being usually gathered towards the end of the financial year the produce actually comes into the market and is exported in the next. The outturn shown in the table, against each financial year, is, therefore, the actual production of the preceding year. The production of wheat in the different countries of the world during 1890-1911 is also shown in the second table.

*In thousands of maunds*

Years	Total produc- tion	Total Imports (a)	Total Exports (a)	Net Exports	Net avail- able supply including wastage and re- quirements, for seeds	Index No of column 2	Percent age of column 6 to column 2	Percent age of column 4 to column 2	Index No. of Gold Prices
1	2	3	4	5	6	7	8	9	10
1891	22,15,95	4,87	4,24,91	4,20,04	17,95,91	109	81 0	192	110
1892	18,34,54	1,59	2,16,21	2,14,62	16,19,92	90	88 3	11 8	110
1893	21,05,12	1,29	1,78,11	1,76,82	19 28,30	103	91 6	8 5	95
1894	21,61,29	3,30	1,06,46	1,03,16	20,58,13	106	95 2	4 9	75
1895	18,84,90	2,13	1,51,03	1,48,90	17,36,00	92	92 1	8 0	82
1896	15 92,65	8,37	30,23	30,86	15,61,79	78	98 1	2 5	104
1897	15,38,63	1,11	44,23	43,12	14,95,51	75	97 2	2 9	148
1898	21,58,14	12	2,81,31	2,81,23	18,76,91	106	87 9	13 0	115
1899	21,48,04	4,45	1,45,47	1,41,02	20 07,02	105	93 4	6 8	107
1900	16,15,05	8,73	12,80	4,07	16,10,98	79	99 7	0 8	138
1901	20,31,25	2,94	1,12,48	1,09,54	19,21,71	100	94 6	5 5	124
1902	18,23 24	29	1 56,61	1,56,32	16,66,92	89	91 4	8 6	116
1903	22,11,94	33	3,72 07	3 71,74	18,40,20	108	83 2	16 8	107
1904	23,91,75	35	6,08,34	6 07,99	19,83,76	127	76 6	23 5	102
1905	21,22,10	6,32	2 73,28	2 68,96	18,53,14	104	87 3	13 0	114
1906	22 68,04	3,32	2 37,87	2 34,55	20,33,49	111	89 7	10 5	127
1907	22,25,79	3,80	2,58,01	2 54 21	19,71,58	109	88 6	11 6	134
1908	14 65 45	8,12	43 59	35,47	14,29 98	72	97 6	3 0	170
1909	18,91 60	24	3,02 92	3,02 68	15,88 92	93	84 0	16 0	169
1910	23,09,83	11	3 64 25	3 61,17	19 45 66	113	84 2	15 8	135
1911	23,60,77	51	3,94,79	3,94,28	19,66,49	116	83 3	16 7	126

(a) Figures are for official years ending 31st March of the following year

*World's outturn of Wheat, 1890—1911**(In millions of bushels)*

Year	United States of America	Prussia	France	India *	Austria Hungary	Italy	Germany	Spain	Canada	Argentina	Other countries	Grand Total	Index numbers
1890	399	220	339	304	217	127	95	70	39	42	352	2 204	89
1891	612	254	219	252	189	141	86	71	63	32	513	2,432	98
1892	516	338	311	289	202	116	116	82	50	36	426	2,482	101
1893	396	462	280	291	212	135	110	95	43	57	473	2,559	104
1894	460	418	348	259	201	122	111	106	45	80	511	2,661	108
AVERAGE	477	338	299	280	204	123	104	85	48	49	455	2,467	100
1895	467	377	340	219	210	118	117	81	57	60	547	2,593	104
1896	428	365	340	211	206	145	126	72	41	41	531	2,506	102
1897	530	286	247	296	127	87	120	93	56	25	367	2,234	91
1898	675	408	363	295	189	137	133	124	68	47	503	2,942	119
1899	547	394	364	222	204	138	141	101	60	105	492	2,768	112
AVERAGE	529	366	331	249	187	125	127	94	56	56	488	2,608	106
1900	522	396	326	279	195	134	141	101	54	102	391	2,641	107
1901	748	402	311	250	181	165	92	137	91	75	504	2 956	120
1902	670	561	328	303	235	136	143	134	101	56	423	3,090	125
1903	638	552	364	356	227	184	131	129	85	104	420	3,190	129
1904	552	622	299	291	204	168	140	95	74	130	589	3,164	128
AVERAGE	626	507	326	296	208	157	129	119	81	93	466	3,008	122
1905	693	568	335	311	228	161	136	93	109	151	542	3,327	135
1906	735	451	325	305	269	176	145	141	128	135	624	3,434	139
1907	634	438	377	201	185	178	128	100	93	156	639	3,129	127
1908	665	489	318	260	231	152	138	120	112	192	496	3,173	129
1909	737	711	356	317	186	190	138	144	167	156	531	3,633	147
AVERAGE	693	531	342	279	220	171	137	120	122	158	566	3,339	135
1910	695	699	268	324	255	153	142	137	150	131	697	3,651	148
1911	621	447	315	343	252	192	149	148	216	146	688	3,517	143

\* Years indicate financial years ending on the 31st March of the following year



Course of prices of  
wheat.

285 In 1891, the wheat harvest in India was exceptionally good, and to meet a strong demand from Europe in consequence of the failure of the crops in America and Russia, more than 18 per cent of its total produce was exported, and prices in India were high. The United States had two most magnificent crops in succession in the next two years and there was consequently a heavy decline in the demand for Indian wheat in European markets. The Indian harvest in 1892 was poor, but owing to a decline in the European demand prices continued at the level of the previous year. In 1893 and 1894, there was a further decline in the European demand, which, coupled with comparatively good harvests in India, brought down the price, the average price in 1894 being the lowest on record. In 1895, the Indian crops were below the normal, and out of the restricted supply a large quantity was exported to foreign countries, and prices rose in India. The two following years were exceptionally unfavourable for the Indian wheat harvest, and prices rose very high, operating as a check on exports which accordingly dwindled to very small dimensions. The crops in 1898 and 1899 were very good, and notwithstanding heavy exports to foreign countries, prices fell, though the level in 1899 was still higher than the average of the basic period. The wheat crops in India failed again in 1899-1900, and very little wheat was exported from India in 1900. As a consequence of the diminished supply, there was a considerable rise in the prices in India again in 1900. In the following year, a decline in the European demand brought down the prices again, although the Indian harvest was not particularly good. In 1902, the production in India was short. Harvests in Europe, on the other hand, were exceptionally good and as a result prices in India fell in 1902 more than 6 per cent. In 1902-03, the crops were above normal and the year following was a record year for the wheat harvest in India, the outturn having been 27 per cent above the basic period. The harvest in Europe was a bumper one in 1903. In 1904, however, it was poor, and enormous quantities of wheat were exported from India, where prices fell almost to the level of the basic period. During the next three years the production of Indian wheat was above normal, but still there was a steady rise in prices in sympathy with the rise in European markets. In 1907-08, the wheat harvest practically failed in India, and prices in 1908 rose 27 per cent over that of the previous year, the exports to other countries being practically stopped altogether in that year for a time. The crops in 1908-09 were better, though much below normal. Still, as the harvests in Europe and America were the highest on record, prices in India fell in 1909 more than 6 per cent. During the two years 1910 and 1911 the wheat harvest throughout the world was good, and there was a steady decline in prices. The price of wheat in India has, with some occasional falls, been rising in recent years, notwithstanding an increase in the supply available for internal consumption. This is explained by the 'rise in world markets. It is, therefore, safe to conclude that with the growing prosperity of the country, the demand for wheat is increasing, and that wheat is replacing the cheaper grains in the dietary of the people.

#### SUGAR

The present position  
of the Sugar  
industry

286 During the period under enquiry, prices of food-grains—cereals and pulses—have risen more than 40<sup>1</sup> per cent, but the price of Indian crude sugar, known as "gur," has risen only 26 per cent and the price of sugar as a class only 9 per cent. Sugar has thus not at all shared in the general appreciation of food stuffs, probably because of the immense growth of the imports of foreign sugar, in the prices of which there has been a substantial decrease. The power of India to absorb immense quantities of crystallised sugar in addition to the cruder sugar of its own production has become increasingly striking year by year. Still it has not been possible to improve the inefficient methods of the

indigenous industry, so as to enable its product to compete with the imported article India's potentiality as a sugar producer is hampered by the small and scattered nature of the holdings, the impracticability, except perhaps in newly reclaimed areas, such as canal colonies, of concentrated cultivation around the central factory, and the peculiarities of demand which has four-fifths of its volume restricted to molasses and low grade sugars produced by wasteful and primitive methods and commanding prices out of all proportion to their refinery values. Thus even in a year of abnormally high prices, the demand for refined sugar has been strong. It is no wonder, then, that there should be a continuous decline in the acreage under cultivation of cane in this country. Ten years ago imported sugar formed only 5.9 per cent of India's sugar supply, now it forms more than 20 per cent. Though India is probably the largest producer of sugar in the world, as would appear from the following statements showing the world production of sugar, and though its crop is equivalent to about 5 million tons of potential sugar, still having regard to the fact that the population of India exceeds 300 millions, that sugar, as an article of diet, is well suited to the Indian and that there has been a contraction of its cultivation of sugar, the rapid, continuous and enormous expansion of the imports of sugar is not striking.

*World's production of Cane Sugar, 1895 to 1910*

*In thousands of tons of 2,240 pounds each*

Year	India	Cuba	Java	United States of America including Hawaii, Louisiana, Porto Rico and Texas	Brazil	Mauritius	Formosa	Philippines	Other countries	TOTAL
1	2	3	4	5	6	7	8	9	10	11
1895	2,986	240	605	505	225	140		230	959	5,890
1896	2,440	220	498	580	176	153		202	1,018	5,287
1897	2,944	314	531	585	200	122		178	956	5,830
1898	3,044	345	689	557	154	186		93	1,009	6,077
1899	2,421	309	722	441	103	157		63	981	5,287
AVERAGE	2,767	286	609	534	190	152		153	985	5,674
1900	2,745	636	710	687	308	175		55	1,102	6,418
1901	2,591	850	767	740	349	148		79	1,174	6,698
1902	2,447	999	843	821	188	150		90	1,100	6,638
1903	2,571	1,040	886	706	197	221	35	84	1,128	6,868
1904	2,730	1,163	1,009	896	195	142	49	107	1,108	7,399
AVERAGE	2,617	938	843	770	247	167	42	83	1,122	6,804
1905	2,404	1,179	991	945	275	188	64	146	1,228	7,420
1906	2,055	1,428	1,012	846	215	220	81	146	1,200	7,803
1907	2,368	962	1,156	1,017	180	170	68	150	1,166	7,237
1908	2,067	1,514	1,242	1,093	248	206	122	129	1,207	7,828
1909	2,476	1,804	1,201	1,106	253	245	160	120	1,277	8,642
AVERAGE	2,394	1,377	1,120	1,001	234	206	99	138	1,216	7,786
1910	2,506	1,900	1,175	1,116	310	190	230	150	1,301	8,928

*World's production of Beet and Cane Sugar, 1895 to 1910, and Index Numbers, the average of 1895—1899 being taken as 100*

*In thousands of tons of 2,240 pounds each*

Year	BEET			SUGAR				Total Cane Sugar	Total Beet and Cane Sugar	INDEX NUMBERS		
	Germany	Austro Hungary	Russia	France	United States of America	Other Countries	Total Beet Sugar			Beet Sugar	Cane Sugar	Total
1	2	3	4	5	6	7	8	9	10	11	12	13
1895	1,615	791	712	668	29	507	4,322	5,890	10,212	87	104	96
1896	1,837	934	729	752	38	671	4,961	5,287	10,248	100	93	97
1897	1,853	832	739	821	40	594	4,879	5,830	10,709	99	103	101
1898	1,722	1,051	776	830	32	611	5,022	6,077	11,099	101	107	104
1899	1,790	1,120	900	970	73	755	5,608	5,287	10,895	113	93	102
AVERAGE	1,763	946	771	808	42	628	4,958	5,674	10,633	100	100	100
1900	1,984	1,094	919	1,114	77	879	6,067	6,418	12,485	122	114	118
1901	2,305	1,302	1,099	1,124	163	928	6,921	6,698	13,619	139	119	129
1902	1,762	1,058	1,256	833	195	659	5,763	6,638	12,401	116	118	117
1903	1,928	1,168	1,207	804	215	781	6,103	6,868	12,971	123	122	122
1904	1,598	889	954	622	216	654	4,933	7,399	12,332	99	130	116
AVERAGE	1,915	1,102	1,087	899	173	780	5,957	6,804	12,762	120	121	120
1905	2,418	1,510	969	1,090	279	957	7,223	7,420	14,643	145	132	138
1906	2,239	1,344	1,440	756	432	943	7,154	7,803	14,957	144	138	142
1907	2,130	1,425	1,410	728	414	877	6,984	7,237	14,221	141	129	134
1908	2,083	1,399	1,257	807	380	1,065	6,931	7,828	14,759	140	138	140
1909	2,027	1,257	1,145	801	458	916	6,604	8,642	15,246	133	153	143
AVERAGE	2,179	1,387	1,244	836	393	940	6,979	7,786	14,765	141	137	140
1910	2,572	1,600	2,075	750	510	1,069	8,576	8,928	17,504	173	159	166

Imports of foreign sugar into India and the course of sugar prices

287 The quantity of sugar imported into India from foreign countries in the earlier years of the period under enquiry was slightly over 2 million cwts, practically all of which was cane sugar from Mauritius, China, Java, and the Straits. With the increase in the production of beet sugar in Europe, cane sugar of Mauritius was gradually thrust out of the European markets and the Mauritius sugar planter found himself obliged to turn to the Indian market. Mauritius sugar was consumed in Western India where local production was on an insignificant scale, the climate being unsuitable. Northern Indian sugar could not compete with the imported article, in Western India, in consequence of the cost of transport. At the same time European beet sugar also began to be imported into India in larger quantities. The imports from Germany first assumed importance in 1895-96, and Austria-Hungary entered the field in the following year, and by 1897-98 the Indian market was flooded with the bounty-fed beet sugar from these two countries. They were forced to find an outlet for their sugar in the markets of the East by reason of the closing of the United States markets by the Dingley tariff which imposed a countervailing duty equal to the export bounty, and of the competition of France in the English markets due to enhanced export bounty on French sugar. During these years, the imports from Mauritius and Java also increased, but sugar from China and the Straits was not able to find an expanding demand in the Indian market. To avert the danger threatening the sugar industries of India through the rapid growth of the import of the bounty-fed sugar from the two countries mentioned above, the Government of India, on the lines of the action taken in the United States, imposed, in addition to the ordinary import duty, an additional duty equivalent to the bounties granted to the exporters of beet

sugar in the countries where it was produced. The imposition of this duty was followed by an immediate and considerable reduction in the imports of beet sugar and the imports of cane sugar from Mauritius and other countries also declined in 1899-1900 owing to a rise in prices.

288 In 1900, a cartel system was established in Germany, copied from that of Austria and as a result, there was a heavy decline in prices. In consequence of this as well as of two consecutive bad seasons for cane in the Punjab there was a revival of the imports from Austria-Hungary and Germany, and in 1901-02 the imports from Austria-Hungary surpassed those from Mauritius and the total imports of beet sugar exceeded those of cane sugar for the first time in that year. Sugar imported into Karachi could be laid down into the Punjab more cheaply than Indian sugar from other provinces, the railways finding it expedient to concede favourable terms for carrying sugar up-country from the ports, as the wagons going to the ports with Indian produce must be brought back thence hundreds of miles, empty or full. Thus it was profitable to accept sugar at low rates for the upward run from the sea-board. The proceedings of the Brussels Sugar Convention in March 1902 revealed the bounties created by the operations of the trade conventions known as cartels, formed in Germany and Austria-Hungary, and to countervail these bounties further additional duties were imposed by the Government of India in that year on sugar imported from the two countries. The additional duties virtually extinguished the Indian import trade in Austrian and German sugar, but there was no increase in the production of sugar in India and the only result was a large increase in the imports of cane sugar from Mauritius and Java. In September 1903, the parties to the Brussels Convention agreed to abolish bounties, and the Government of India remitted the countervailing duties on the sugar produced in the countries which agreed to abolish bounties. In 1904, there was an extensive failure of the beet crop in Europe owing to drought, and this was imperfectly compensated by a large yield of cane sugar and it accordingly resulted in a large increase in prices. The remission of countervailing duties revived the trade in December 1903 in Austrian and German sugar, but the growth of the imports from Java was greater. The Reciprocity Convention of 1904 between the United States and Cuba gave a preference to Cuban sugar, and the recovery of the sugar industry of that island has deprived Java sugar of its assured position in the American market. The exports to the United States have accordingly declined and the imports to India have increased steadily since then. The imports into India were 225,000 cwts in 1900-01, 8,357,000 cwts in 1910-11 and 7,955,000 cwts in 1911-12.

289 In 1907, there was a shortage of crops in Germany and Austria-Hungary and this was followed by a rise in the price level. In 1908, the beet crop in Europe and the cane crop in Cuba were both short and there was a large increase in the world's price of sugar. The Indian prices were further enhanced by a shortage in the Indian crop which was the lowest on record. In 1909, there was a further rise due to a general shortage of the beet crop on the continent of Europe. Prices in India rose to their highest level in 1910, notwithstanding the heavy imports from Java and Mauritius. The imports from Java have largely exceeded those from any other country since 1906-07. A resuscitation of the Formosa industry by the Japanese and the free import of sugar from the Philippines into the United States of America, allowed under the Payne tariff, have restricted the activity of Java in the further East, and the large products of her cheap labour and the latest methods of scientific manufacture are being diverted to India.

Growth of Imports  
of Java sugar since  
1906

## COTTON

**Demand for Indian cotton in other countries.**

290 India produces roughly about one-eighth of the world's requirements of cotton. The manufactures of the Indian mills are chiefly confined to the coarser kinds of yarn and piece-goods, while India consumes a large quantity of cotton manufactures of finer qualities imported from abroad, mainly the produce of Lancashire. India also exports a large quantity of both raw material and cotton manufactures to other countries. China is its chief customer in regard to yarns, while Ceylon, the Straits, Aden and East Africa consume the larger share of its manufactured piece-goods available for export. The fluctuations in the price of cotton thus depend partly on the relative abundance or scarcity of the yield in India and partly on the demand from other countries, which, again, is largely influenced by the crop in the other cotton-growing countries of the world, chiefly the United States, Egypt and China. The demand for Indian cotton has been largely influenced by changes in the course of the trade in Indian cotton during the period under enquiry. Prior to the period under enquiry, England was the country which took most of the Indian cotton, not so much for local manufacture, for the competition of the Indian mills had already materially reduced the spinnings and weavings for which this short staple cotton was required, as for distribution over the continent of Europe, where the coarser kinds of cotton goods are still made for the use of the peasantry and the artisans. Gradually, the shipments to England declined, as direct communication was established with the consumers of the continent. Then Japan entered the market and, in consequence of the exceptional development of her spinning industry, speedily became a much larger consumer than any other country. As the Japanese mills increased their spinning capacity, the demand in England for short staple cotton continued to decline, Japanese yarn and cloth of the coarser kinds gradually ousting English yarn and cloth of the same class in the markets of the Far East. Another reason for the contraction of the demand in Europe was the growth of the production of cotton in the United States, where an abundance of the supply so effectively reduced the price of the fibre as to make the use of that cotton economical in comparison with Indian cotton.

**World's production of cotton**

291 The following statement shows the world's production of cotton from 1900 to 1910 and the index numbers of the gold prices ruling in India. Statistics of the outturn of previous years for the other countries are not available.

*World's Cotton Crop from 1900 to 1910 (in thousands of bales) and Index Numbers, the average of 1900—1904 being taken as 100*

Year	United States of America	India (a)	Egypt	China	Asiatic Russia	Brazil	Mexico	Other countries	GRAND TOTAL	Index Numbers of gold prices
1900	10,123	1,810	1,125	1,192	633	209	101	249	15,442	104
1901	9,510	1,711	1,320	1,200	482	210	103	330	14,866	91
1902	10,631	2,069	1,210	1,200	426	305	104	317	16,262	91
1903	9,851	2,029	1,349	1,200	529	285	169	323	15,735	98
1904	13,439	2,322	1,305	1,200	504	220	253	357	19,600	117
AVERAGE	10,711	1,988	1,262	1,198	515	246	146	315	16,381	100
1905	10,577	2,036	1,231	1,200	539	270	227	377	16,457	98
1906	13,274	2,649	1,428	1,200	688	365	270	397	20,271	110
1907	11,108	1,795	1,486	1,200	549	348	70	469	17,025	106
1908	13,242	2,210	1,398	1,200	546	231	140	567	19,534	107
1909	10,005	2,633	1,000	1,200	543	277	90	640	16,388	117
AVERAGE	11,641	2,265	1,309	1,200	573	298	159	490	17,935	108
1910	11,609	2,338	1,571	1,200	688	270	200	580	18,456	146

(a) Years represent official years

In 1900, prices in India rose in sympathy with a high level of prices in all other countries. There was, consequently, a great contraction in the exports of Indian cotton to Japan, where the spinners preferred American to Indian cotton, as the former was a better value at the comparative level of prices. The cotton crop of the world in 1900 was fairly good and prices fell in all countries in 1901. There was a revival of Indian exports to Japan and other countries, and Indian cotton regained its position in Japanese markets. In 1901, the crop was poorer than in the previous year and prices rose in 1902 in all other countries. In India also prices rose at the ports but, taking upland prices into account as well, there was no change in the price level. In 1902, the crop was good everywhere but prices in all countries rose in 1903 owing to the operations of speculators in cotton. In 1903, the American crop was short, and prices rose all the world over to a considerable height in 1904, and there was an active demand for Indian cotton in other countries. The American crop, in 1904, was of unprecedented magnitude, and the Indian crop was also abundant and the fall in prices in 1905 was marked throughout the world—prices in India having dropped 19 points. The year 1905 again proved a bad year for American and Egyptian cotton and there was a large increase in the prices in 1906. The crops were, that year, unusually good in most of the countries of the world which grew cotton, but speculation was rife and prices did not fall in 1907 as much as might have been expected from the abundant supply—particularly because it was anticipated that there would be a cotton famine in 1907. The anticipation was fulfilled and the crop of 1907 was a very poor one throughout the world except in Egypt. Speculation had already kept the prices at a high level and instead of an expected rise in prices in 1908, there was a fall in most countries of the world. Prices in India, however, remained almost at the level of the previous year, being only one point higher. In 1908, the world's crop was again fairly good, but still there was a rise in the prices of 1909. In 1909, the American and Egyptian crops were very poor, though the Indian crops were considerably above the average, and prices rose very high in all countries, the rise in India, notwithstanding an abundant crop, being no less than 25 per cent over the previous year. In 1910 also, the outturn was not good, except in Egypt, and prices continued to rise higher in 1911, thus showing that the price of Indian cotton is governed now more by the world's crop than that of India itself.

Course of prices of cotton

#### JUTE

292 Jute being a monopoly of India, the prime factor that determines its price in the world markets is the outturn of the crop in India. This varies according to the season and also according to the price ruling in the market, because the area under cultivation fluctuates to a large extent according to the prices realised by the cultivator. If prices are not good and rice is being sold at a good price, the cultivator will place more land under rice and less under jute, and in the same way when conditions change, he returns to jute. With the rapid growth of the world's trade, the demand for jute is increasing, and even with an extension of cultivation and a favourable season, the total production might be insufficient to meet the demand. Prices would then rise and further extension would go on until the produce exceeds the demand, when prices would fall again and there would be a contraction of cultivation until equilibrium is restored. The trade in raw jute also differs materially from the trade in other Indian staples. It is more speculative and uncertain than any other trade in the country. The crop is grown almost exclusively in a limited part of Bengal, and a good or a bad season there is the most material factor in the trade. With other crops, such as rice, wheat, and oilseeds, the area over which they are cultivated is so extensive that a deficient crop in one place does not affect the total supply, to a material extent, if there has been a fairly good season in other places where the crop is

Jute—a monopoly of India—and prices depend mainly on the harvest in India.

also cultivated With jute the case is different, for a good season or a bad season in the limited area means a good, bad or indifferent supply for the whole world, the whole crop being equally affected The trade consequently presents, from year to year, the most changing appearance The crop is relatively small and prices run up, or it is relatively large and prices run down, or when the conditions of the trade favour all speculative combination, even an abundant supply may be coincident with high prices These remarks are borne out by the following statement which shows, year by year, the acreage under cultivation, the total outturn, the exports and the index numbers of the average prices in gold in the important countries of the world during all the years of the period comprised in the enquiry

*Statement showing the acreage under cultivation, the total outturn, the exports and the Index Numbers of the prices in gold in the important countries of the world*

Years	Acreage under cultivation in thou sands of acres	Production in thou sands of maunds	Export in thou sands of maunds	INDEX NUMBERS OF PRICES				
				INDIA	UNITED KINGDOM	GERMANY	CANADA.	UNITED STATES
				Jute	Jute Native firsts	Jute Raw	Jute 1st mark	Jute Raw M ♂
1890	2 450	32,181	19,671	101	116		100	100
1891	1,779	20,321	15,251	104	92		92	96
1892	2,201	29,159	18,454	101	92	111	114	123
1893	2,229	24,702	16,329	101	100	95	98	90
1894	2 273	30,040	22,937	93	100	94	96	91
1895	2,248	32,037	22,820	90	87	79	83	72
1896	2,212	27,048	22,241	100	96	87	94	83
1897	2 659	33,471	28,696	89	88	80	85	97
1898	1,691	26,610	21,629	88	84	79	84	86
1899	2,072	27,903	21,432	103	93	89	92	95
1900	2,101	33,446	26,619	117	114	105	107	113
1901	2,282	38,502	31,108	103	86	94	90	104
1902	2,145	32,762	29,403	100	102	87	93	114
1903	2,503	39,712	30,326	113	109	97	102	120
1904	2,943	37,967	29,410	117	102	99	104	115
1905	3,140	43,105	33,220	146	134	132	134	103
1906	3,524	47,352	36,423	186	185	177	178	140
1907	3,942	53,228	36,001	170	160	143	157	127
1908	2,839	32,580	40,903	129	123	111	116	96
1909	2,759	33,698	39,754	120	109	95	101	82
1910	2,833	36,176	37,337	131	111	106	104	89
1911	3,091	42,293	39,200	170		155		

Course of prices of Jute

293 The most noticeable features are as follows —In 1891, the outturn of the crop was relatively deficient and prices rose In 1892, the crops were better and prices fell 3 points, they continued at the same level in 1893, although the production was somewhat smaller than in the previous year In 1894, there was an increase of 2 per cent in the acreage under cultivation and the crop was exceptionally good The gold price accordingly fell to an unprecedentedly low level, but as at the same time the gold price of the rupee fell from 14 546d to 13 1d there was a slight increase in the rupee price This was followed by a gradual contraction in cultivation until it reached its lowest level in 1898 In 1896, the crop suffered from insufficient and unseasonable rain and prices rose, but the level was still lower than that of 1892 and 1893, and the small outturn acted as a deterrent to any extension of cultivation, specially as the price of rice was rising very rapidly owing to the impending famine. The next season was very favourable and the crop harvested exceeded expectations Prices, therefore, declined heavily and this led to a further contraction of the area under cultivation. In the following year, the season was adverse and the result was a small crop, but as mills had laid by large stocks in the previous year the

demand was slack and there was no improvement in prices. In the two following years (1899 and 1900), there was a steady recovery in prices and the effect of two successive years of deficiency was fully felt in the latter year when prices rose to a level much higher than had ever been reached before. The years 1901 and 1902 were good and the level of prices went down to 103 and 100 respectively. The fall in the price of rice was, however, greater and much more rapid and the prospects of profit from that crop gloomier, and, as a consequence, there was an extension of the cultivation of jute. Since then, for some years, the seasons were good and there was a steady increase in the area under cultivation and in the outturn. Still in each successive year the increased outturn fetched a much higher average price than that of the previous year. The average price ratio for raw jute rose to its highest point (186) in 1906. The rise in the price of jute in 1905 and 1906 was not singular, as during these two years there was a rise in the prices of almost every kind of agricultural product in India, but in 1907 there was a fall in the price of jute although in the price of most other articles there was a rise. The total production of jute in 1907 was the heaviest on record and was followed by a large drop in the price, though in the previous years a steady increase in the outturn had been accompanied by a steady increase in the price. The demand for jute in the world markets was growing steadily, but in the end the growth of production was more rapid than that of the demand and the effects of over-production were evidently perceptible for the first time in 1907 when the price ratio for raw jute receded to 170 from 186 in 1906.

294 The full effect of the over-production was perceived in 1908, when, notwithstanding a serious contraction of the area under cultivation and of the total outturn, there was a heavy decline in the price because of the financial crisis in America and of the accumulation in the markets of the world of considerable stocks from the bumper crops of the previous years, and also because of a restriction of the demand in India as the result of the collapse of her export trade. The contraction in the area under cultivation continued in 1909, but owing to a favourable season the outturn was much higher and prices dropped still lower. In 1910, the season was good and the outturn was higher than in the two preceding years, but in the meantime stocks had gone down and there was consequently a rise of 11 points in the price. In 1911, there was a still further increase in the total outturn but it was still considerably less than the average of the three years, 1905 to 1907, and prices rose to a point slightly higher than the average of the three years mentioned above. There was a still further rise in 1912 and the present level is much higher than that of any previous year. The rise in the price of jute manufactures throughout the period has been considerably smaller than that of raw jute owing to an exceptional activity in the industry, both here and abroad, the number of jute spindles and looms in India having been more than doubled during the last decade.

295 On the whole, the price of jute since 1903 does not seem to have depended so much on supply as on the world's demand for it. This, however, can hardly account for the enormous price which it fetched in 1906, and the same influences which in recent years have raised the general price level of commodities as a whole must have raised the price of jute also.

#### HIDES AND SKINS

296 The price of hides and skins in India is almost exclusively governed by the prices prevailing in Hamburg, London, New York and other world markets. Prices ruled by foreign markets. The growing demand from these markets for Indian hides and skins is shown by the following figures of their total exports from India



*Exports of Hides and Skins from India.**(In thousands of cwts)*

Year	Hides	Skins	Total	INDEX NUMBERS	
				Gold price	Rupce price
1890-91	564	235	799	112	95
1891-92	588	263	851	103	95
1892-93	568	286	854	93	96
1893-94	550	274	824	99	105
1894-95	636	296	932	93	109
1895-96	745	305	1,050	106	120
1896-97	665	266	931	104	111
1897-98	934	298	1,232	109	109
1898-99	773	297	1,070	117	113
1899-00	1,285	405	1,690	129	124
1900-01	1,495	405	1,900	119	115
1901-02	773	402	1,175	123	118
1902-03	422	391	813	131	126
1903-04	706	428	1,134	142	136
1904-05	756	508	1,264	147	141
1905-06	1,032	678	1,710	154	148
1906-07	1,214	615	1,829	171	164
1907-08	729	463	1,192	168	161
1908-09	865	618	1,483	156	150
1909-10	922	748	1,670	158	152
1910-11	897	695	1,592	171	164
1911-12	997	689	1,686	166	159

**Influence of famines on the supply of hides and skins.**

297 These figures bear melancholy testimony to the deplorable effects of the famines which are always accompanied by scarcity of fodder and drinking water, when mortality among cattle increases, and people find it extremely difficult to feed and keep their cattle and are compelled to part with them at a nominal price, and they are slaughtered for their hides at any rate, if not for the meat. There is thus an increased supply of hides and skins in years of famine, but in subsequent years, a reaction follows. Owing to the decrease in the number of cattle, there is a decrease in the supply of hides, and it takes some years to replenish the old stock of cattle and for the supply of hides to come up to the old level. The exports of raw skins has gone on increasing owing to a remarkable development of the chrome leather industry in the United States of America.

**Course of prices of hides and skins**

298 The exports of hides were slack in 1896 owing to restrictions imposed by the importing countries which dreaded the contagion of plague. In the following year there was a relaxation of the restrictions, and the decline of the previous year was more than made good by the additional supply brought in by famine. Prices fell partly owing to a larger supply and partly owing to inferior quality and diminished consumption in India in consequence of the famine. The exports were highest in 1899 and 1900 when, on the one hand, in consequence of the famine, mortality among cattle increased and supplies were abundant and, on the other, the outbreak of hostilities in South Africa created an unusual demand for the replenishment of all kinds of leather equipments for the army. The decrease in the supplies after the famine and the cessation of the war led to a decrease in the exports until the extraordinary demands of the Russo-Japanese war raised the exports again, and both exports and prices continued to increase until 1907, when the financial crisis in America had a paralysing effect on the trade, and to

add to this, the import into America of hides other than dry arsenic cured, except under a certificate as to disinfection from the American Consul at the place of export, was prohibited, and the cessation of the war caused a slump in German and other markets. The famine of 1908 caused an abundant supply and there was a further fall in prices in spite of large exports. Since then both exports and prices have been increasing again. Another factor contributing to the rise of prices of hides and skins is the higher standard of living throughout India, which must have increased the demand for leather, notwithstanding the fact that the enormous rise in the prices of hides has somewhat restricted the use of leather bags for the purpose of lifting water from wells for irrigation purposes. In years of famine, there is always a serious decline in the purchasing power of the people and a consequent contraction of the consumption in India, and this accounts to some extent for the fall in the price of this class of articles which has invariably accompanied every famine.

### GHEE AND MILK

299 The rupee prices of ghee and milk have risen very considerably in the period under enquiry. In the quinquennium 1895-99, they rose as compared with the basic period by 3 per cent, in the quinquennium 1900-04 by 12 per cent, in the quinquennium 1905-09 by 28 per cent, and in the triennium 1910-12 by 46 per cent.

300 Witnesses, whom we examined while on tour, were almost unanimous in saying that the production of milk and its preparations have considerably decreased, owing to a decrease in the number and a deterioration in the breed of milch cattle. The following statement shows the number of milch cattle in each province as compared with the population. Although for reasons explained in Appendix D, absolute reliance cannot be placed on these statistics, yet they show sufficiently that the number of milch cattle in most areas has not increased to any appreciable extent, while in some areas it has decreased. Successive famines have swept away a large number of cattle, and although in subsequent good years there has been a rapid recovery, the ground lost has not been fully regained in some places. That there is some truth in the allegation made by the witnesses cannot, therefore, be altogether denied.

	NUMBER OF MILCH CATTLE		POPULATION		Number of milch cattle per mille of population
	Number (in thousands)	Percentage of the first year	Number (in thousands)	Percentage of the first year	
UNITED PROVINCES OF AGRA AND OUDH					
1893-94	9,766	100	47,276	100	206.6
1898-99	9,497	97	47,638	101	199.4
1903-04	10,369	106	47,677	101	217.5
1908-09	9,758	100	47,395	100	205.9
PUNJAB AND NORTH-WEST FRONTIER PROVINCE					
1893-94	5,755	100	21,830	100	263.6
1898-99	5,544	96	22,375	102	247.8
1903-04	4,232	74	22,429	103	188.7
1908-09	6,089	106	21,981	101	277.0

	NUMBER OF MILCH CATTLE		POPULATION		Number of milch cattle per mille of population
	Number (in thousands)	Percentage of the first year	Number (in thousands)	Percentage of the first year	
SIND					
1899-00	706	100	3,294	100	214 3
1901-02	717	102	3,362	102	213 3
1905-06	760	108	3,498	106	217 6
1909-10	999	142	3,632	110	275 3
BOMBAY PRESIDENCY (INCLUDING SIND)					
1893 94	2,911	100	15,609	100	136 5
1897-98	2,444	84	15,346	98	159 3
1901-02	1,817	62	15,319	98	118 6
1905 06	2,147	74	15,526	99	138 3
1909-10	2,429	83	15,966	102	152 1
BERAR					
1893-94	1,065	100	2,805	100	379 7
1896-97	949	89	2,756	98	344 3
1899-00	835	78	2,747	98	304 0
1902-03	583	55	2,781	99	209 6
1905-06	708	66	2,857	102	247 8
1908 09	747	70	2,974	106	251 2
CENTRAL PROVINCES					
1896-97	2,807	100	9,924	100	282 8
1899 00	3,036	108	9,849	99	307 2
1902-03	2,879	103	10,012	101	287 6
1905 06	3,194	114	10,412	105	306 8
1908 09	3,157	112	11,049	111	285 7
MADRAS PRESIDENCY					
1890-91	5,416	100	35,630	100	152 0
1894 95	5,593	103	36,592	103	152 8
1899 00	5,441	100	37,917	106	143 5
1904 05	5,937	110	39,376	111	150 8
1908 09	7,251	134	40,641	114	178 4

Increased demand for milk and its preparation

301 Owing to the increase in population and to the general improvement in the standard of living among all classes, the demand for milk and ghee has, on the other hand, considerably increased. Most villagers can now boast of at least one sweet-meat shop if not more, and one has merely to visit one of the village railway stations to be convinced of the increased consumption of ghee and other preparations of milk. Thus there has been a large increase in the demand for and a decrease in the supply of this class of commodities, and it is only natural that prices should rise, as they have done.

## CHAPTER X

## A synopsis of the causes of the rise of prices.

302 While it is impossible to lay down with dogmatic confidence the exact importance of each of the causes which have been at work in raising Indian prices in recent years, it is necessary to group them in order of importance notwithstanding the difficulty of disentangling and measuring the effects of each of these causes in raising prices. Prices have risen in almost all the chief countries of the world as well as in India, but the rise in India, in recent years, has been greater than in any other country. The causes of the rise of prices in India may, therefore, be divided into two classes, namely, (1) causes peculiar to India and (2) causes that have influenced the price level throughout the world. It should also be remembered that it is necessary to differentiate between the causes whose duration was more or less temporary and those whose influences extended over the greater part, if not the whole, of the period under investigation.

Causes of the rise divided into (1) causes peculiar to India and (2) causes that have influenced the price level throughout the world

## Causes peculiar to India.

303 Of the causes peculiar to India, the comparative shortage in the production of food stuffs in India proper excluding Burma, the increased demand for India's food products and raw materials both in India itself and in world markets, the increase in communications within India itself and between India and foreign countries, and the decrease in the cost of transport, which have brought India closer to the world markets and the increasing monetary and banking facilities, are perhaps the most important. Of the world factors, the most important are the increased supply of gold, the development of credit, the destructive wars which have taken place, in recent years, one after another in quick succession, and the amounts of labour and capital which are being devoted by the richest countries of the world to increasing their army and navy. There has been a large increase in the price of India's staple commodities owing to an increased demand in world markets, and this improved position of India in international trade has exercised not unnaturally a large influence on the price level. Sir David Barbour in his recent book, 'The Standard of Value,' says 'During the last fifteen years the relative advantage of India in the International Trade of the world has greatly improved. This improvement has been one of the causes of the rise in the Indian Exchange, and has led to large imports of gold and to the large additions to the rupee currency which the Government of India have had to make. Such an improvement is always attended with a general rise in prices and wages.'

Causes enumerated

304 There has been a large increase in prices due to a shortage of food production in India proper. One must not, however, forget that shortage of supply is often a shortage as compared with a very greatly increased demand. The growing demand for jute, cotton, and other commercial crops in the world markets has stimulated the production of these commodities, and has prejudicially affected the cultivation of food grains. Unseasonable and deficient rainfall, during the period under enquiry, has also contributed, in no small measure, to a shortage of production. This was specially marked in 1891-92, 1896-97, 1899-00 and 1907-08 and, to a lesser extent, over a series of years during the last decade, which were more or less unfavourable. The cumulative effect of such unfavourable years, coming one after another, has often been under-estimated. A detailed examination of the statistics of outturn of food-grains for India excluding Burma, shows that production has not kept pace with population in the way which one would have supposed. This shortage in supply has, however, to some extent, been made good from Burma, where the area under rice cultivation has increased with great rapidity and, with extensive tracts still available for rice cultivation, will in all probability go on increasing. In the famine of 1908, for example, a consider-

Comparative shortage of production

able portion of Burma's rice supplies was diverted to Bengal and Madras, instead of being exported to the Far East or to Europe

**Increased demand  
in India**

305 There has been an extraordinary growth of prosperity among large sections of the people, specially those who are engaged in the cultivation of jute, cotton, oilseeds and wheat. The purchasing power of these classes has greatly increased, and this has stimulated the consumption of all kinds of necessaries. The population of cities and other industrial centres has grown very rapidly, with the development of trade and commerce and of industries on Western lines, this growth has resulted in the transfer of a large part of the population from a lower to a far higher standard of food-consumption. There has been a remarkable change in the style of living of all classes of society, throughout the country, and this has led to an increased demand, not only for luxuries, but also for the finer varieties of food grains at the expense of the cheaper kinds, the consumption of miscellaneous articles of food, *e.g.*, meat, fish, vegetables, ghee and milk, has also increased very largely, in many tracts the ordinary cultivator has now become a fierce competitor with the middle classes for these commodities. There has, thus, been a large increase in the demand for commodities generally, on the part of the consumers resulting in a rise of prices.

**Development of  
communications  
and lowering of cost  
of transport**

306 The development of communications and the lowering of the direct and indirect costs of transport, in India itself and between Indian ports and foreign countries, have also contributed, to a large extent, to the advance of prices. The mileage of railways has nearly doubled in the last 23 years, and railway freight has fallen by about 30 per cent. The advent of railways in remote areas has removed the difficulty and, in many cases, the impossibility of transporting their produce profitably to central markets. The growth of the mercantile marine and the extension of cables and telegraphs have, during the last 10 or 15 years, brought India closer into the world's commerce. Prices in Indian ports are now linked on to those of the world markets, and prices in upland districts have similarly been levelled up to those at the ports, in a greater degree than was previously the case. The fall in freights has had, between 1890 and 1910, a great influence in affecting relative prices not only in different parts of India but between the world markets and India itself. The fact that India and the world's markets are mutually sympathetic, to a greater degree than at the commencement of the period of this enquiry, has resulted in factors, outside India, affecting prices here with greater rapidity and to a greater extent than formerly. A shortage in wheat, rice, cotton or oilseeds in European or American markets makes itself felt at once in India, and the prices of the respective commodities not only at the ports, but also in upland districts, tend to conform more closely to those of the world markets than is generally believed. The effect of this increasing sympathy, between Indian and the world's markets, and between different parts of India, is that prices are prevented from falling as low or rising as high, as they would otherwise have done.

**Growth of monetary  
and banking  
facilities and  
development of  
credit in India**

307 The capital and reserves of the Joint-Stock Banks in India including Presidency Banks, have increased in the decade ending 1911 by 56 per cent. Private deposits available for commercial enterprise have increased from an average of twenty-six crores in the five-years 1890-94 to about eighty-five crores in 1911. The amount of cheques cleared in the three Presidency towns has increased from 138 crores in 1890 to 517 crores of rupees in 1912. This remarkable growth of monetary and banking facilities and development of credit have increased the resources of business-men and with it the demand for commodities generally, and prices have risen to an extent greater than what would have been possible had this improvement not been co-existent.

*Causes that have influenced the price level throughout the world*

308 The development of credit has not been confined to India, but has been general throughout the world, and this has been the prime factor which has raised the price level in all countries. The gold supply, as already explained, has increased to an extent unparalleled in the history of the yellow metal. It is this increase of gold and a simultaneous increase in credibility, *i e*, in securities which Bankers would accept in making advances, that has led to the remarkable development of credit.

The development of  
credit throughout  
the world

309 Destructive wars which have taken place in quick succession since 1896 and the increase in armaments in all countries have also affected the price level to a large extent. Capital and labour have been diverted to what may be termed "unproductive" purposes, and there is also an increased demand for many classes of commodities, as a result of the activity on the part of the most prosperous nations of the world in increasing their army and navy.

Destructive war  
and increase of  
armaments

310 These are believed to be the principal causes of the recent rise in Indian prices. It is clearly impossible to keep each of these apart by itself for, as already pointed out, they are continually acting and reacting on one another. We may, however, emphasise the importance of the increase in communications and the fall in the direct and indirect costs of transport, the increased demand consequent on a general improvement in the standard of living, together with the great development of Banking and credit resulting from an increase in credibility and in the supply of gold consequent on the discovery of the cyanide process and the extension of the Transvaal mining industry. There are other contributory causes, not mentioned above, such as the sinking of large amounts of labour and capital on the development of Railways and the opening out of new tracts in backward countries, the fruitfulness of which will take some time to mature, but which have stimulated consumption and prevented production from overtaking it. These have already been mentioned when analysing the primary causes, but no attempt has, for obvious reasons, been made to assign them relative importance.

More important of  
the causes  
mentioned

## CHAPTER XI.

## The rise of prices—whether permanent or temporary.

All causes to be considered.

311 In answering the question—whether the rise of prices is a permanent feature or is only temporary—it is necessary to take into account all the factors which have influenced the general price level in India in recent years. Predictions, which are based on one factor only, would be of no value. All the causes of the rise, including both those which are peculiar to India and those which have affected the general price level of the whole world, should be carefully considered. Questions of money and prices are now international in their nature, and no trustworthy forecast can ever be made without taking into account the conditions prevailing in other countries and in the world generally.

General price level and smoothed averages to be considered

312 In predicting the future level of prices, we should take into account the general price level, *i.e.*, the level of all prices, whether of food, raw materials, or manufactures, and not the price ratios of individual articles or classes of commodities. It has already been pointed out that the price level in India, Australia and some other countries have been subject to violent fluctuations in particular years in consequence of unfavourable seasons or other special causes. The yearly price level would not, therefore, be a convenient guide, in considering the question of the permanence or otherwise of the rise of prices. It is, accordingly, expedient to deal with smoothed averages and smoothed price curves rather than with yearly figures. It is also certain that the longer the period for which averages are taken, the greater will be the chances of fluctuations, due to temporary causes being eliminated and the averages giving clearer indications of the more lasting tendency on the part of the general price level to rise or fall. The five yearly averages given in another part of the report are not smooth enough, giving, as they do, clear indications of the more violent movements, both up and down, in particular years. It appears to be desirable, therefore, to take the averages of a longer term, but in consideration of the fact that the period under enquiry is limited to 23 years, it is not advisable to take a longer period than nine years. Each succeeding period of nine years taken consists of eight years of the previous period and the year just after its end.

One yearly smoothed averages.

313 The table on page 131 shows these nine-yearly smoothed averages for India as well as for some of the other important countries of the world, *viz.*, England, Germany, Belgium, Italy, France, United States, Canada, Australia and New Zealand. Chart No 26 gives graphic representations of these smoothed averages. A tendency to steady rise is clearly observable in the case of all the curves since 1896, and it is clear that the forces at work, whatever they have been, have raised the price level steadily in all the countries. Unless these forces cease to work or there is a change in their relative strength, it is only reasonable to expect that the upward tendency will continue.

Rise due to local causes likely to be maintained

314 As regards the causes peculiar to India, the most important have been the growth, distribution and changes in the habits of the population, the inadequacy of the production of food supplies in the country to meet the increased demand, a steady increase in credit devices and a growth of transport facilities. In recent years, the population, in spite of the ravages of malaria and plague, has increased, and changes in the distribution have been, and are still taking place, involving changes of occupation, which mean transfer from a lower to a higher standard of food consumption, and in fact, from a lower to a higher standard of living generally. So far as such changes are concerned, their effect on prices is likely to continue. It is true that the insufficiency of the production, during a considerable portion] of the [period under enquiry, has

been due, more or less, to unfavourable seasons, coming one after another in quick succession, and that their influence on prices, *ceteris paribus*, cannot but be temporary. It is also true that, with the extension of irrigation, production is likely to increase at a more rapid rate in the future. It should be remembered, however, that, with the slow but gradual industrialisation on a scientific basis, which is now proceeding in India, the production of commercial crops will gradually increase, and with the increased numbers of mills working up this raw material into manufactured commodities, India (excluding Burma) will become less and less dependent on the production of food crops as a source of her wealth. Changes have taken place and are still taking place in the methods of business. The spread of education and the continued prosperity of the country are likely to raise the standard of living still higher, and thereby to stimulate consumption. Credit devices, owing to the growth of banking and the increase in credibility, will go on increasing, as they have done in recent years. The velocity of money, including credit, especially in large towns with their ever-growing business, is also on the upward trend. An analysis of the factors, affecting India alone, thus tends to show that most of these will probably continue to exert their influence, for the next generation at least, in the same direction as in the last decade. The general level of prices to-day is not likely to return to the level of the early nineties. It seems also reasonable to expect, but dangerous to prophesy, that although exceptionally good seasons in quick succession, in the immediate future, might temporarily bring down prices to some extent, yet over a series of years, the present level is likely to be more or less maintained, if not raised to a still greater height.

*Nine yearly average Index numbers of Wholesale Prices in Foreign countries and India*

	UNITED KINGDOM				Belgium (Wool)	Germany (Schmitz and Hooler)	Italy (Imports and Exports)	France (various)	Canada Department of Labour	U S A Aldrich Bureau of Labour	New Zealand (McIlwraith)	Australia (Mel bourne wholesale prices)	India
	Economist	Board of Trade	Sauerbeck	Average									
1890 98	96	95	96	96	100	96	96	95	96	94	97	99	102
1891 99	94	94	95	94	100	95	96	94	95	93	96	95	101
1892 00	94	93	96	94	100	95	97	94	95	93	95	95	104
1893 01	94	93	96	94	101	95	97	94	95	93	95	96	106
1894 02	93	92	96	94	103	95	97	94	96	94	95	98	108
1895 03	93	93	97	94	105	97	98	95	98	95	95	102	111
1896 04	94	93	98	95	106	98	99	96	99	97	95	103	113
1897 05	95	94	100	97	108	101	101	98	101	100	95	103	115
1898 06	98	95	103	98	111	104	103	100	104	104	96	103	117
1899 07	101	97	105	101	113	108	105	103	107	107	97	105	120
1900 08	102	98	106	102	116	110	106	104	110	110	97	109	125
1901 09	103	98	106	102	117	111	106	104	111	111	97	110	126
1902 10	104	100	107	103	119	113	107	105	113	114	98	110	128
1903 11	107	101	109	106	121	117	110	108	115	115	99	110	130
1904 12	110		111	108					117	118		111	134

315 As regards the causes which have affected the general price level in the whole world, the most important are increased production of gold and an increase in credit and credibility which have added to the facilities for exchange of goods much faster than the requirements of business. The chief factors to be taken into consideration, before predicting the future course of the general price level, are the probable future additions to the gold money of the world and the future growth of deposit banking. The statistical data in regard to both these matters are, however, very meagre. It is difficult, if not impossible, to obtain a reliable estimate of the annual rate of growth of money deposits, the velocity of money and the activity of deposits, all of which exert an important influence on the general price level.

Causes affecting the price level of the world



Will the world's  
gold supply continue  
to increase.

316 Some gold mining experts, like deLaunay and John Hays Hammond, believe that the world's gold supply will continue to increase for many years to come, especially in view of the decreased cost of production and the possibility of working the cheaper ores, consequent on the invention of the cyanide process. Others like George E. Roberts, Director of the United States Mint, think the chances are that the maximum will be reached in a few years. Director Roberts, who is one of the best informed men in the world on this subject, says in his report for 1911: "It has been a theory of writers on the subject that the rise of commodities and wages would automatically check the production of gold, thus providing its own corrective, but the gold-mining industry furnishes an illustration of how invention, organization, and the use of capital are able to accomplish a reduction in costs when every factor in the calculation shows an advancing tendency. The cost of handling ore and extracting gold in the Transvaal mines per ton of ore treated, has steadily declined and made a new low record in 1910. While it is not likely that the Rand will show an appreciable decrease for a good many years to come, it is probably not far from the maximum output. There has been no gain in the world's production for some years except that made by the Rand."

317 So far as the production of gold is concerned, it is not, therefore, safe to predict any great increase, although it would be still less safe to predict a decrease. When we consider all the possibilities before us, the chances of new discoveries of gold or of further economies in gold mining and the certainty of a continuance of an enormous annual extraction of ore *actually in sight*, we may feel confident that the annual gold production will not decrease so rapidly or suddenly as not to make a net addition to the world's money and bank reserves.

Addition to gold  
money and bank  
reserves

318 It must be remembered, however, that it is the relative increase of the world's money and bank reserves that is of importance and not merely the annual additions to them. It has already been stated that the total present stock of gold in the world is estimated at £3,033,000,000, of which more than £1,339,000,000 has been obtained during the last two decades, and that of the latter considerably less than half has been added to the gold money and bank reserves of the world. The annual additions in recent years have thus been a large percentage of the total stock of gold currencies existing before. Now that the existing stock has increased so immensely, it is only a very large increase in the future production of gold which could make an equally large proportionate increase to the existing stock. We cannot follow blindly the predictions of those who hold that because the production of gold is not likely to decrease in the immediate future, gold money and bank reserves will continue to increase as fast as in the last decade and that prices will continue to rise at the same rate. The supporters of this theory forget that it is only the proportionate increase in the world's currencies which really affects prices and not the annual addition to the total stock of such currencies. In recent years, an increasing share of the world's output of gold has found lodgment outside of what may be termed the active channels of commerce. Notwithstanding the fact that the production of gold in 1912 amounted to nearly £94,000,000 in value, the stock of gold in the public banks of Europe was increased by only £19,000,000 and in the United States by £16,000,000, while a net sum of only £6,000,000 was imported into Brazil and Argentina. Even assuming that the whole of this went into use as money or into the conversion funds of the two countries, thus giving stability to their paper currencies, and also taking into account the additions to the currencies of other countries, the total additions to the currencies of the world would appear to have been less than half the total production in 1912.

Hoarding of gold

319 It is thus clear that a very large quantity is being still used in the arts or is being absorbed by India, Egypt and other countries. The

absorption of immense quantities of gold in India during the last 10 or 12 years has already been referred to. In the calendar year 1912, the net import of gold into India appears to have been in the neighbourhood of £29,000,000, of which the greater portion has gone into hoards. There are some who hold that with the development of banking, hoarding is likely to go out of habit in this country. But they ought to be convinced on the foregoing figures that hoarding at the present moment is still on the increase. The habits of the Indians, despite what Western economists might say, have not changed. Their love for jewellery and gold bars is as potent as ever. As in India, so in Egypt, there are no signs of any abatement in the Egyptian's love for gold. The gold which is imported into that country does not enter into bank stocks, but is absorbed by the people. "A little while ago," said Lord Cromer in an address in London, "I heard of an Egyptian gentleman who died leaving a fortune of £80,000, the whole of which was in gold coin in his cellars. Then, again, I heard of a substantial yeoman who bought a property for £25,000. Half an hour after the contract was signed, he appeared with a train of donkeys bearing on their backs the money which had been buried in his garden. I hear that on the occasion of a fire in a provincial town no less than £5,000 was found in earthen pots. I could multiply instances of this sort. There can be no doubt that the practice of hoarding is carried on to an excessive degree." The oriental hoards, therefore, provide a future sink for gold, and a check against the growth of the world's currency and bank reserves. For years to come hoarding in India will continue and, in spite of the arguments of English and American economists, there seems to be little chance in the near future of the tendency to hoard diminishing to any appreciable extent. There is very little strength in the argument that the oriental demand for gold has been, more or less, satisfied already. The point of satiety or saturation seems to be distant yet. It is true that Englishmen formerly used to put a part of their hoards in "plate" which could be reconverted into coin, if emergency required, and that with the advent of bank devices such a custom has long since disappeared. But East is not West and oriental hoards will not pass into monetary use suddenly, as they do not do so, to any large extent, even in times of famine or of special emergency. The statement, therefore, of the Director of the United States Mint must be accepted with reserve when he says 'There is an undoubted tendency in all countries to use banks more than formerly, and it is probable that the stock of gold in banks has been recruited not only from new production but to some extent from gold heretofore held in private hoards and out of use. In every country the younger generation to whom these hoards descend is likely to put them to some use.' There is no justification for holding that a release of oriental hoards will make any additions to the world's production of gold. On the other hand, with the growing prosperity of the orient, the oriental habit of hoarding is likely to claim a larger share of the world's produce in the near future.

320 The table given on page 103, showing the additions to bank and other reserves in gold of some important countries, gives the following results. In the decade ending with 1899, the reserves rose from £296,000,000 to £504,000,000, thus showing an increase of 70 per cent in the decade or 7 per cent per annum. In the next eleven years ending with 1910, the reserves rose from £504,000,000 to £867,000,000, the increase being 72 per cent in the eleven years or 6.5 per cent per annum. The average annual addition in the first period was £21,000,000 and in the second £33,000,000. Still the percentage of increase in the second period was smaller than in the first. To raise the present stock even at this reduced rate, an annual addition of £56,000,000 to the world's currencies would be required, and this would be possible only if the annual production of gold increases to 70 per cent during the next decade. As explained above, under

Future additions to gold currency and bank reserves likely to be proportionately smaller

present conditions there is hardly any justification for expecting such an increase in the gold production of the world. On the whole, it may be reasonably expected that the currencies and bank reserves of the world in gold will continue to increase in the near future, but that the annual additions will not be proportionately as large as in the last decade.

**Growth of deposits larger than growth of business Prices will rise until business overtakes deposits**

321 As regards banking deposits, it has been already shown that the growth has been much larger than that of either money or the volume of trade. The use of cheques in place of money has been increasing with enormous rapidity. All nations—even those which have used cheques for generations—are making a continually larger use of cheques relatively to money. Everywhere the use of banking devices is increasing much more rapidly than the volume of money. Even in England, where cheques have been used for so long a time, the volume of deposits is still increasing. In Canada and Germany it is increasing much faster. In Continental Europe, Japan, India and other backward countries there is vast room for the expansion of deposit banking for many decades to come. On the whole, with the growth of the material prosperity of the world and especially in consideration of the fact that many countries are still far behind the English-speaking races in the use of cheques, it may reasonably be expected that banking deposits of the world, as a whole, will grow at a very rapid rate in the immediate future, though in countries like England, where banking institutions have been in existence for a long time, the rate of further growth might be slow. Even if the rate of growth of the world's metallic currencies becomes comparatively slower in the near future it does not appear likely that the rate of the growth of banking deposits will diminish to any appreciable extent. The rate of their velocity is also likely to increase. We have corroborative testimony in the statistics of Clearing Houses. The clearings show a more rapid rate of increase than deposits, indicating clearly that the use of cheques is growing faster than the deposits against which they are drawn and that the activity of the deposits is increasing. On the whole, there is no doubt that banking deposits and their activity are likely to grow at a more rapid rate than the volume of business. So long as the rate of growth of business does not overtake that of banking deposits, prices are likely to continue to increase.

**Professor Fisher's calculation of the annual rate of growth of money, deposits, etc**

322 Professor Irving Fisher in a paper published in the "American Economic Review," of September 1912, has given details of some elaborate calculations made by him regarding recent percentage rates of the annual growth of money, deposits, velocity of money, activity of deposits and the volume of trade, etc., and has shown that the factors affecting the price level of the world, as a whole, are making for a rise of prices in the future. The following table embodies the result of his calculations —

323 Professor Fisher says that the chief discrepancies in the table are doubtless in the figure showing the rate of activity of deposits, but there is no doubt that deposits subject to cheques are increasing with the greatest rapidity in Canada and Germany and least in Great Britain. Notwithstanding the discrepancies in these tables, it is clear (1) that deposits are increasing far more rapidly than money, a fact of great significance in the future movements of prices, and (2) that the volume of trade is increasing in all important countries at a lesser rate than deposits.

324 Professor Irving Fisher, in discussing the future trend of the general price level, concludes "In view of all the facts, it would not seem strange if the rise in prices should continue in the future for at least a generation. This does not, of course, mean that a rise will occur in every individual year. On the contrary, the upward movement, for reasons given elsewhere, is likely to be interrupted every decade or so by a crisis like that of 1907. A restoration of the steady upward movement in prices is pretty sure to mean a boom, and a boom is the incubation period for a crisis. No upper limit is assigned to the possible rate of rise of prices, for the reason that we can never know when new and rich mines will be discovered or when someone will find a paying method of extracting gold from the Southern clays or even from sea water. We conclude, then, that prices are almost sure to continue to rise in the next decade or two, probably as fast on the average as 2 per cent per annum."

Conclusion of  
Professor Fisher

325 Sir George Paish, Editor of the "Statist," thinks that there will be no fall in the cost of living for some time to come, and that possibly there may be a further advance. "At the moment," he says, "the consuming power of the world per head of population is greater than it has ever previously been, and as the credit of practically every country is at high-water mark, and the lending countries are willing to find great amounts of capital for the borrowing nations, there is likely to be no diminution in the rate of consumption. Indeed, there may be an endeavour to increase consumption more rapidly than production, and a still higher range of prices may result. Nevertheless, if peace is maintained, lower prices will ultimately result from the influx of capital and labour into the food-producing countries. The mileage of new railways, now under construction in the food-lands, is greater than it has been for many years, and the influx of settlers is on a vast scale. During the preliminary stages of railway construction, the building of farm houses, the laying out of towns, the making of roads, etc., consumption increases more rapidly than production, this is the stage in which we are at present, but at a later stage, when many of the new railways will be finished and a much larger proportion of the labourers will be free to devote their energies to production, the latter will increase more rapidly than consumption. Still, having regard to the great output of gold, to the distance from the world's markets of the new lands still available for settlement, and to the probable condition of credit, it seems improbable that prices will even then fall to anything like the level they reached in the nineties, when the adverse factors in the situation were so many and so cogent."

Sir George Paish on  
the future level of  
prices

326 It is not perhaps easy to accept Professor Fisher's calculation of the probable annual rate of increase in the world's general price level. But so far as India is concerned, it seems to be safe to conclude that the rise of prices is likely to continue for some time to come. At any rate it is hardly likely to fall. An analysis of the factors affecting prices, whether confined to India or pervading the whole world, shows that leaving out of account exceptional movements, both up and down, in exceptional times of famine and commercial crisis, the present general price level will be maintained, if not raised.

Rise of prices likely  
to be permanent

## CHAPTER XII.

## Effects of the Rise of Prices.

Importance of the question

327 The probable effect of the rise of prices on India, as a whole, and on the different sections of the community consisting of land-owners, cultivators, traders, persons engaged in small industries, wage-earners and professional classes, is a question of great importance, the solution of which is beset with special difficulties

Effect on debtor and creditor countries

328 It has often been a matter of grave doubt whether the welfare of a country, as a whole, is furthered by a rapid rise in general prices. The question depends on the general economic condition of the country itself. A debtor country, which has large foreign obligations to meet by the export of a part of its produce, benefits when the price of such produce rises, inasmuch as it is able to discharge its foreign obligations by the export of a smaller proportion of its commodities, while a creditor country, which obtains, in return for its investments in other countries, food-stuffs, raw materials and manufactures from those countries, would lose, if prices rise, inasmuch as it would get in payment of its dues a smaller quantity of such commodities

Effect on an agricultural country

329 It is sometimes held that, on the whole, the greater portion of the community is benefited by falling prices. This would, however, apply to a country in the van of industrial progress and not to an agricultural country like India, and even in the case of an industrial country it is doubtful whether too much stress is not laid on the immediate effects of the change without considering the ultimate results. There can hardly be any doubt that in an agricultural country like India, rising prices would be beneficial to the country as a whole. A country, which produces enough food-grains and raw materials to leave a surplus available for other countries, would undoubtedly gain, because it would get from other countries a larger value for the commodities which it exports. The different sections of the community would, however, be affected in different ways. The cultivator who holds his land at a fixed rent would benefit, but the landlord, who is under a prolonged engagement for his revenue with Government or some other land-owner and does not cultivate his lands on his own account and is not able to raise the rents payable by his tenants *pari passu* with the rise in prices, would suffer. Other consumers would also suffer, unless their income increases as fast as their cost of living. It is especially in agricultural countries that the position of the day labourers, who form the majority of wage-earners, is one of recurring jeopardy, and, unless their wages rose as quickly as their cost of living, their sufferings would be enhanced. Living, as they do, near the margin of subsistence, they gain little when the season is favourable, whether they be paid in kind or coin. In bad times, when employment is scarce, their sufferings know no bounds. The only salvation of the labouring classes lies, therefore, in an increase in the demand for labour and an increase in the general level of wages, not only corresponding to the increase in their cost of living, but also large enough to provide for a margin to enable them to tide over special periods of distress when it is difficult for them to find employment. If, however, the total number of the population engaged on agriculture is largely in-

excess of the number of persons with fixed income, and if the wages of labourers rise more rapidly than the cost of living, which has been the case in India, as shown in Chapter XIII, a rise of prices cannot but lead to general prosperity of the country as a whole

330 Rising prices generally promote speculation and extravagance, increase consumption, especially of luxuries, and, therefore, stimulate production. In an industrial country, the employers of labour would, therefore, reap an advantage from prices rising more quickly than the cost of raw material and labour, but wage and salary-earners would suffer, as their wages would not rise with the rise of prices. A rise of prices is thus reasonably certain in such a country to become a period of unrest, discontent, agitation, strikes, riots and rebellions. Effect on an industrial country

331 Thus even in the same country, different sections of the community would be affected in different ways by a rise of prices. Capitalists who have made their investments in securities carrying fixed rates of interest, pensioners, public and private employes on fixed salaries, and the professional classes who depend for their income upon customary fees would be adversely affected in every community by a rise in general prices. Wage-earners would also suffer unless their wages rise as much as their cost of living. Producers, on the other hand, would gain, because the cost of production is not likely to increase as quickly as that of the commodities produced. Different sections of the community affected in different ways

332 In discussing the effects of the rise of prices in India, it is proposed to examine the question from three different points of view — (1) the effect on India as a whole, (2) the effect on the different sections of the community, and (3) the effect in the different economic tracts or circles into which India has been divided. Question to be examined from three points of view

#### EFFECT ON THE COUNTRY AS A WHOLE

333 India is a debtor country with large foreign obligations. She has to make heavy remittances to England every year to meet her liabilities there. These consist of (1) interest on the share of her national debt which has been raised in England and on the large amount which has been borrowed in England for the construction of railways and irrigation works, (2) the cost of stores of various kinds required by the Government of India, (3) the furlough allowances, pensions and gratuities of officers who have served in India, (4) the expenditure incurred by the British Government for enlisting and training troops for service in India, and (5) the charges of the India Office. These constitute the Home charges. Besides these, she is also liable for the interest on the sums invested through private channels in tea and coffee plantations, in jute and other factories and in mining and other enterprises. Remittances have also to be made on account of the savings invested outside India of foreign merchants, bankers, lawyers and Government officers living in India and the foreign steam-ships employed in carrying the great bulk of India's coasting trade. All these obligations are discharged by the export of food-grains and raw materials produced in India. These exports have also to pay for the manufactured and other goods which are imported from other countries into India for consumption, and the freight thereof. India a debtor country

334 The rise of prices in recent years has enabled India to discharge her foreign liabilities by the export of a proportionately smaller quantity of her produce. The following statement shows the declared values of about 99 per cent of the total exports from India (excluding Burma), year by year, from 1890-1891 to 1911-12, and their values calculated at the average prices which Effect of higher prices on Indian exports and imports.

prevailed during the basic period, 1890-91 to 1894-95, as well as the difference between these two —

[ In lakhs of Rupees, ]

YEAR.	EXPORTS (ABOUT 99% OF TOTAL)			IMPORTS (ABOUT 84% OF TOTAL)		
	VALUE IN EACH YEAR		Increase + Decrease —	VALUE IN EACH YEAR		Increase + Decrease —
	As declared	At average rate of basic period.		As declared	At average rate of basic period	
1890-91	89,42	94,18	—4,76	54,07	53,10	+97
1891-92	96,99	1,00,91	—3,92	50,71	51,20	—49
1892-93	96,32	94,31	+2,01	47,32	48,61	—1,29
1893-94	97,66	93,77	+3,89	59,32	58,30	+1,02
1894-95	97,03	94,25	+2,78	56,17	56,38	—21
AVERAGE	9548 4	9548 4		5351 8	5351 8	
1895-96	1,02,65	99,28	+3,37	52,40	52,72	—32
1896-97	93,98	90,04	+3,94	57,51	57,64	—13
1897-98	88,74	92,62	—3,88	57,07	59,38	—2,31
1898-99	1,01,57	1,09,23	—7,66	53,07	58,65	—5,58
1899-00	99,20	1,04,03	—4,83	58,45	62,23	—3,78
AVERAGE	97,23	99,04	—1,81	55,70	58,12	—2,42
1900-01	98,16	94,24	+3,92	66,21	65,59	+62
1901-02	1,14,61	1,13,63	+98	67,17	68,45	—1,28
1902-03	1,14,51	1,14,66	—15	62,26	64,46	—2,20
1903-04	1,38,46	1,35,13	+3,33	63,93	64,88	—95
1904-05	1,42,89	1,39,09	+3,80	75,67	74,66	+1,01
AVERAGE	1,21,73	1,19,35	+2,38	67,05	67,61	—56
1905-06	1,47,74	1,32,56	+15,18	81,99	79,24	+2,75
1906-07	1,63,49	1,32,77	+30,72	86,76	81,53	+5,23
1907-08	1,61,50	1,34,60	+26,90	1,03,11	90,82	+12,29
1908-09	1,41,97	1,23,01	+18,96	97,12	87,50	+9,62
1909-10	1,73,35	1,48,51	+24,84	96,50	90,27	+6,23
AVERAGE	1,57,61	1,34,29	+23,32	93,10	85,87	+7,23
1910-11	1,90,25	1,48,13	+42,12	1,02,93	95,07	+7,86
1911-12	2,01,91	1,53,33	+48,58	1,04,54	93,22	+11,32

335 Had the price level remained the same as at the standard period, India would have got for her exports only the amounts shown in the above table as the "value at average rates of the basic period," otherwise called 'calculated values' Owing to the rise of prices she has gained on 99 per cent of her exports, the amounts shown in the table as the differences between these calculated values and those declared in the bills of entry On the other hand, India has also to pay more for her imports in consequence of the rise of prices The statement given above also shows the declared and calculated values of about 84 per cent of the imports into India as well as the

differences between the two, which represent the increased payments which India has to make on account of her imports in consequence of the rise in prices. The values of only 99 and 84 per cent of the total exports and imports, respectively, have been calculated at the average prices of the basic period, because it was possible to ascertain the *quantities* of exports and imports in the case of only those percentages of the goods and not of all classes of goods exported and imported. Assuming, however, that prices of the remaining 1 and 16 per cent of the exports and imports, respectively, have risen at the same rate as the great bulk of the exports and imports for which it is possible to ascertain the quantities and to calculate values at the prices of the basic period, the gain and loss on the total exports and imports would amount to the figures shown in the table given below. The difference between the total gain on the exports and the total loss on the imports is the net gain to India as a whole in consequence of the rise of prices.

[ In lakhs of Rupees ]

	AVERAGE ANNUAL DECLARED VALUES		AVERAGE ANNUAL CALCULATED VALUES		Gain + Loss —	
	Of commo- dities of which quan- tities are recorded	For whole of exports and imports	Of commo- dities of which quan- tities are recorded	For whole of exports and imports	Difference between columns 3 and 5	Average annual net gain
1	2	3	4	5	6	7
1895-96 to 1899-00—						
TOTAL EXPORTS	97,23	98,70	99,04	1,00,54	—1,84	
TOTAL IMPORTS	55,70	66,62	58,12	69,52	+2,90	1,06
1900-01 to 1904-05—						
TOTAL EXPORTS	1,21,73	1,23,55	1,19,35	1,21,14	+2,41	
TOTAL IMPORTS	67,05	80,24	67,61	80,92	+68	3,09
1905-06 to 1909-10—						
TOTAL EXPORTS	1,57,61	1,59,97	1,34,29	1,36,30	+23,67	
TOTAL IMPORTS	93,10	1,15,48	85,87	1,06,48	—9,00	14,67
1910-11 and 1911-12—						
TOTAL EXPORTS	1,96,08	1,99,07	1,50,73	1,53,02	+46,05	
TOTAL IMPORTS	1,03,73	1,28,14	94,14	1,16,28	—11,86	34,19

336 India as a whole has thus gained, by the rise in the prices of her net exports, annually Rs 1,06,00,000 during 1895-96 to 1899-1900, Rs 3,09,00,000 during 1900-01 to 1904-05, Rs 14,67,00,000 during 1905-06 to 1909-10 and Rs 34,19,00,000 during 1910-11 and 1911-12

Net gain on exports  
and imports

337 The popular belief in India is that the rise of prices is detrimental to the interests of the country as a whole. This is because those who form public opinion in India are the educated classes who are either landlords or persons depending for their income on securities, shares, etc., or are members of the learned professions dependent for their income upon customary fees,

Popular opinion  
effect of rise of  
on India



or are employes on fixed salaries in Government or private service. If incomes and prices vary irregularly, as they do in actual practice, the man whose income does not rise as fast as the prices of goods will find himself worse off than before, while the man whose income being derived from the sale of commodities rises with every rise in the price of his commodities, will find his material position changed for the better. In framing an estimate of the comparative effects of a rise of prices on the general welfare, one must, therefore, take into account the numerical strength of the classes whose receipts and expenditure being variable adjust themselves, more or less, rapidly to the altered value of money, and of the classes whose incomes being fixed are adjusted only after considerable friction and delay. In India, the number of persons dependent on the land for their income form 60·0 per cent of the total population, agricultural labourers, 13·3 per cent, industrial and commercial classes, 18·1 per cent, general labourers (not agricultural), 2·3 per cent, professional classes, 1·6 per cent, public servants, 1·2 per cent, domestic servants 1·5 per cent, and other occupations, 2·0 per cent. The prosperity of India depends, therefore, largely on the prosperity of those who are dependent on agriculture for their subsistence, and not so much on that of the professional classes and public and private servants who form only a microscopic minority of the population. Those who hold that rising prices have been detrimental to the interests of India as a whole, generally urge that rising prices have increased the indebtedness of the agriculturists and that there has been no increase in the savings of the population, whose material position cannot, therefore, be said to have improved. It will be shown later on that agricultural indebtedness has not, as a matter of fact, increased. In any case, the rise of prices cannot be said to have contributed to the increase, if there has been any. Rather, it has acted as a check against increasing indebtedness. There is also little evidence to justify the conclusion that there has been no increase in the savings of the people. On the other hand, an enormous increase in the absorption of gold and silver in India during the last 10 or 15 years bears *eloquent* testimony to the growth of prosperity of India. Again, the material welfare of a country does not depend so much on the quantity of the precious metals which it accumulates as on the comforts which it is able to enjoy and on an equitable distribution of the means of such enjoyment.

Absorption of gold  
and silver in India

338 As mentioned above, a noticeable sign of an improvement in the material position of India is the astounding increase in her power of absorbing the precious metals, whether in the shape of jewellery or plates or in hoards. The following table shows the net absorption of gold and silver in India during the period under enquiry, *i.e.*, the net imports of gold and silver in India, the amount of gold held in the currency and other reserves and the amounts of silver which have gone to increase the volume of rupee circulation. The net absorption of gold has been taken at the net imports *plus* the total production of gold in India, *less* the amounts held in the Currency and other reserves. No deduction has been made on account of sovereigns which have gone into circulation in the country. It has not been possible to ascertain the total amount of these, and as it cannot be large, the omission does not affect the question under consideration to any appreciable extent. The net absorption of silver has been taken at the net imports *less* the amounts which have gone to swell the volume of the rupee circulation. The total amount of gold and silver absorbed in the country during the twelve years 1900 to 1911 amounted to £116,000,000 of gold and 1,600,000,000 tolas of silver against £27,000,000 and 1,150,000,000 tolas, respectively, in the twelve years prior to 1900.

*Absorption of Gold in India*

[ In millions of pounds sterling

Year	Net annual addition to the stock of the country	Progressive total of additions to the stock	Held in mints and Government treasuries and Currency and Gold Standard Reserves	NET PROGRESSIVE ABSORPTION			Absorption of the year
				Sovereigns	Other coins and bullion	Total	
1873 74	1	1				1	1
1874 75	2	3				3	2
1875 76	1	4				4	1
1876 77		4				4	
1877 78	1	5				5	1
1878 79	-1	4				4	-1
1879 80	1	5				5	1
1880 81	3	8				8	3
1881 82	4	12				12	4
1882 83	4	16		Details not available		16	4
1883 84	4	20		Details not available		20	4
1884 85	4	24		Details not available		24	4
1885 86	2	26				26	2
1886 87	2	28				28	2
1887 88	2	30				30	2
1888 89	2	32				32	2
1889 90	3	35				35	3
1890 91	5	40				40	5
1891 92	2	42				42	2
1892 93	-1	41				41	-1
1893 94	1	42				42	1
1894 95	-2	40				40	-2
1895 96	2	42				42	2
1896 97	3	45				45	3
1897 98	5	50				50	5
1898 99	6	56	2			54	4
1899 00	8	64	7			57	3
1900 01	2	66	7	1	58	59	2
1901 02	3	69	7	2	60	62	3
1902 03	8	77	10	4	63	67	5
1903 04	9	86	11	7	68	75	8
1904 05	9	95	11	10	74	84	9
1905 06	3	98	4	14	80	94	10
1906 07	12	110	4	19	87	106	12
1907 08	13	123	3	26	94	120	14
1908 09	5	128		30	98	128	8
1909 10	16	144	6	33	105	138	10
1910 11	18	162	6	41	115	156	18
1911 12	27	189	16	49	124	173	17

## Statement showing the absorption of Silver—Rupees and Bullion

[ Omitting 00,00,000 ]

	Stock of rupees at the commencement of the year (rupees or tolas)	Net coinage of rupees during the year (rupees or tolas)	Deduct Net exports of rupees during the year (rupees or tolas)	Total (col 2 & col 3—col 4) (rupees or tolas)	Stock of rupees at the end of the year (rupees or tolas)	Absorption of rupees during the year (rupees or tolas)	Absorption of silver bullion during the year (tolas) (as in the statement below)	Total absorption of silver during the year (tolas)
1	2	3	4	5	6	7	8	9
1885 86	1,09	9		1,18	1,13	5	2	7
1886 87	1,13	5		1,18	1,11	7	3	10
1887 88	1,11	8		1,19	1,11	8	—1	7
1888 89	1,11	7		1,18	1,12	6	3	9
1889 90	1,12	7		1,19	1,17	2	3	5
1890 91	1,17	12		1,29	1,20	9	2	11
1891 92	1,20	6		1,26	1,26		4	4
1892 93	1,26	10		1,36	1,38	—2	1	—1
1893 94	1,33	8		1,46	1,36	10	11	21
1894 95	1,36		1	1,35	1,30	5	8	13
1895 96	1,30			1,30	1,28	2	8	10
1896 97	1,28	—1	1	1,26	1,20	6	8	14
1897 98	1,20	—1		1,19	1,20	—1	13	12
1898 99	1,20		2	1,18	1,15	3	8	11
1899 00	1,15	—1	1	1,13	1,12	1	5	6
1900 01	1,12	9	1	1,20	1,20		—1	—1
1901 02	1,20	8		1,28	1,37	—9	8	—1
1902 03	1,37	—2	1	1,34	1,27	7	10	17
1903 04	1,27	5	1	1,31	1,29	2	13	15
1904 05	1,29	12	1	1,40	1,32	8	14	22
1905 06	1,32	10	1	1,41	1,42	—1	8	7
1906 07	1,42	24	1	1,65	1,60	5	16	21
1907 08	1,60	23		1,83	1,86	—3	13	10
1908 09	1,86			1,86	1,92	—6	22	16
1909 10	1,92		1	1,91	1,90	1	19	20
1910 11	1,90		2	1,88	1,86	2	18	20
1911-12	1,86	—1	1	1,84	1,80	4	10	14

## Statement showing the absorption of Silver—Bullion

[ Omitting 00,000 ]

	Imports of silver	Exports of silver	Net imports of silver	Net imports converted into rupee fineness	Net coinage of rupees and small silver	Absorption of silver bullion.
	Ozs	Ozs	Ozs	Tolas	Tolas	Tolas
1885 86			4,07	11,84	9,83	2,01
1886 87			2,51	7,30	4,56	2,74
1887 88	3,79	51	3,28	9,54	10,32	—78
1888 89	3,78	54	3,24	9,43	6,80	2,63
1889 90	4,39	53	3,86	11,23	8,24	2,99
1890 91	5,62	47	5,15	14,98	13,07	1,91
1891 92	3,81	58	3,23	9,40	5,36	4,04
1892 93	5,42	87	4,55	13,24	12 51	73
1893 94	6,03	60	5,43	15,80	4,61	11,19
1894 95	2,95	5	2,90	8,44	3	8,41
1895 96	3,13	30	2,83	8,09		8,09
1896 97	3,37	55	2,82	8,06	—7	8,13
1897 98	6 44	1,84	4,60	13,38	38	13,00
1898 99	4,74	1,84	2,90	8,44	37	8,07
1899 00	4,90	2,66	2,24	6,52	1,32	5,20
1900 01	6,27	1,00	5,27	15,33	16,93	—60
1901 02	6,34	2,31	4,03	11,73	3,82	7,91
1902 03	7,37	2,80	4,57	13,30	3,25	10,05
1903 04	10,12	1,98	8,14	23,68	11,15	12,53
1904 05	9,58	1,92	7,66	22,29	7,81	14,48
1905 06	8,76	4	8,72	25,37	16,88	8,49
1906 07	12,32	2	12,30	39,12	23,38	15,74
1907 08	10,18	25	9,93	28,89	15,70	13,19
1908 09	8,17	69	7,48	21,76	24	21,52
1909 10	7,38	76	6,62	19,26	11	19,15
1910 11	6,77	63	6,14	17,86	20	17,66
1911-12	6,94	3,23	3,71	10,79	30	10,49

339 The progress and prosperity of India as a whole is also apparent from an examination of the declared values of the trade between 1890-91 and 1911-12, as shown in the statement below

Growth of India's  
export and import  
trade.

Statement showing the growth of Exports from and Imports into India excluding Burma

[ In lakhs of Rupees ]

YEARS	DECLARED VALUES			INDEX NUMBERS			INCREASE DUE TO RISE IN PRICES		
	Exports	Imports	TOTAL	Exports	Imports	TOTAL	Exports	Imports	TOTAL
1890 91	90,63	62,16	1,52,79	93	100	96	- 51	+ 19	- 26
1891 92	93,19	59,26	1,57,45	102	95	99	- 39	- 9	- 29
1892 93	97,72	55,80	1,53,52	101	90	97	+ 20	- 26	+ 6
1893 94	99,09	68,55	1,67,64	102	110	105	+ 41	+ 19	+ 32
1894 95	98,44	65,67	1,64,11	102	105	103	+ 29	- 3	+ 17
AVERAGE	96,81	62,29	1,59,10	100	100	100			
1895 96	1,04,14	63,56	1,67,70	107	102	105	+ 33	- 2	+ 20
1896 97	95,36	68,41	1,63,77	98	110	103	+ 43	- 3	+ 25
1897 98	90,10	67,06	1,57,16	93	108	99	- 42	- 34	- 41
1898 99	1,03,09	63,92	1,67,01	107	103	105	- 70	- 92	- 79
1899 00	1,00,80	70,16	1,70,96	104	113	107	- 47	- 61	- 52
AVERAGE	98,70	66,62	1,65,32	102	107	104	- 19	- 43	- 27
1900 01	99,91	76,56	1,76,47	103	123	111	+ 41	+ 14	+ 29
1901 02	1,16,38	79,52	1,95,90	121	128	123	+ 08	- 14	- 2
1902 03	1,16,53	75,68	1,92,21	121	121	121	- 01	- 35	- 14
1903 04	1,40,14	78,41	2,18,55	145	126	137	+ 24	- 15	+ 11
1904 05	1,44,81	91,02	2,35,83	149	146	148	+ 26	+ 13	+ 22
AVERAGE	1,23,55	80,24	2,03,79	128	129	128	+ 19	- 8	+ 9
1905 06	1,49,84	99,82	2,49,66	155	160	157	+114	+ 34	+ 84
1906 07	1,65,71	1,07,61	2,73,32	171	173	172	+230	+ 63	+167
1907 08	1,64,00	1,29,34	2,93,34	170	208	184	+199	+135	+173
1908 09	1,44,55	1,21,94	2,66,49	149	196	168	+153	+109	+135
1909 10	1,75,76	1,18,08	2,94,44	181	190	185	+165	+ 69	+130
AVERAGE	1,59,97	1,15,48	2,75,45	165	185	173	+173	+ 84	+138
1910 11	1,93,24	1,26,52	3,19,76	200	203	201	+283	+ 67	+205
1911 12	2,04,90	1,29,76	3,34,66	212	208	210	+317	+126	+235
AVERAGE	1,99,07	1,28,14	3,27,21	206	206	206	+300	+107	+220

340 Compared with the average of the quinquennium, 1890-91 to 1894-95, the growth of both exports and imports in the quinquennium, 1895-96 to 1899-1900, was not very large. The widespread famine of 1897-98 caused a heavy decline in the exports in 1896-97 and 1897-98. As a result of the impoverished condition of the people and a consequent decrease in their purchasing power, there was a decline in the imports also in 1898-99. On the whole, the value of the total trade in the quinquennium exceeded that of the previous quinquennium by 4 per cent, the increase in the exports being 2 per cent and in the imports 7 per cent. The increase in the value of both exports and imports was more than accounted for by an increase in the volume of the trade. As regards the effect of variations in prices, there was an actual decrease in the declared values of 19 per cent in the exports and of 43 per cent in the imports, due to a fall in prices. In 1900 01, the export trade was dull, as a consequence of the famine which prevailed in that year, but the import trade developed substantially, and export trade began to

develop remarkably, though in the next year there was a decline of 5·5 per cent in the import trade. Since that year, neglecting temporary fluctuations in the import trade and a serious decline in the export trade in 1908-09, when it declined 12 per cent, compared with the preceding year, as the result of the famine of that year, there was a steady increase in both imports and exports until 1911-12, when the total declared values of exports and imports exceeded those of 1901-02 by 75 per cent and 63 per cent, respectively, the increase in the total trade being 71 per cent. The rise has been greatest during the last seven years, during which it has amounted to 42 per cent in the case of exports, imports and the total trade. In the quinquennium ending with 1904-05, the corresponding increases were only 25 per cent, 21 per cent and 23 per cent, respectively, as compared with the previous quinquennium. Apart from an increase in value due to the rise in prices, the volume of both export and import trade has grown immensely, and this cannot but be taken as a sign of great progress.

341 The general conclusion, which may be formed from this statement, showing the declared and calculated values of imports and exports, is that the total volume of the sea-borne trade of India has increased to a very great extent during the last decade, and that this increase in trade and prosperity is due, in a large measure, to a rise in the price of the commodities which are of importance in Indian commerce.

342 A more striking evidence of the material prosperity of India is afforded by its growing consumption of imported articles, most of which were probably considered as luxuries before, but have gradually come to be recognised as necessities. The following statement shows the growth of the imports of 12 such articles. As before, 1890-94 has been taken as the base and the imports in every year are represented as percentages of the average imports of that period —

*Statement showing the value of the imports of certain articles of Luxury and Convenience in India, excluding Burma*

[In lakhs of Rupees]

Year	Sugar and molasses	Kerosene oil	Cotton piece goods	Silk goods	Woollen piece goods	Apparel	Boots and shoes	Copper and yellow metal	Matches	Soaps	Bottle-lights	Galvanized iron sheets	Total	Index Numbers
1890-91	3,03	2,15	23,61	72	1,34	96	13	1,13	22	8	36	47	34,20	101
1891-92	2,25	2,07	21,71	1,03	1,23	1,01	12	1,26	27	10	35	37	31,77	94
1892-93	2,14	2,36	19,79	1,15	1,12	98	11	84	28	10	28	58	29,73	87
1893-94	2,39	2,98	25,33	1,12	1,48	1,15	12	1,48	28	11	41	47	37,82	111
1894-95	2,52	1,85	26,35	88	1,29	1,09	12	90	30	9	47	53	36,39	107
1895-96	2,80	2,67	19,50	1,01	1,10	1,16	13	1,16	29	12	35	72	31,01	91
1896-97	2,81	2,69	23,52	92	1,28	1,09	11	70	21	11	38	81	34,63	102
1897-98	4,45	3,38	19,95	71	68	81	10	87	33	11	47	57	32,43	95
1898-99	3,61	3,01	21,78	79	95	94	12	66	30	12	58	49	33,35	98
1899-00	3,03	3,10	23,88	68	1,28	1,02	16	29	26	14	60	54	34,98	103
1900-01	5,16	3,36	23,60	83	1,50	98	15	58	32	15	59	87	38,09	112
1901-02	5,47	4,10	26,74	89	1,48	1,15	15	69	35	15	56	67	42,40	125
1902-03	4,55	3,92	25,03	96	1,02	1,24	18	1,30	36	20	55	94	40,25	118
1903-04	5,46	4,64	25,29	95	1,49	1,30	20	1,36	38	22	50	91	42,70	126
1904-05	6,33	5,03	30,72	1,20	2,15	1,51	26	1,39	39	23	67	1,37	51,25	151
1905-06	7,05	4,25	33,96	1,07	1,69	1,54	25	85	47	26	72	1,05	53,16	156
1906-07	8,09	4,48	32,33	1,03	1,23	1,43	21	85	50	26	1,10	1,72	53,23	157
1907-08	8,54	4,55	38,55	1,32	1,80	1,74	28	1,20	60	33	1,01	1,79	61,71	182
1908-09	10,17	5,36	28,73	1,25	1,88	1,58	26	1,67	62	31	77	1,73	54,33	160
1909-10	10,63	5,23	30,86	1,33	1,43	1,66	29	1,07	66	35	84	2,13	57,08	168
1910-11	12,21	5,77	35,26	1,82	2,23	2,18	34	2,20	69	41	1,02	2,20	66,33	195
1911-12	9,52	6,34	38,43	1,60	2,50	2,46	42	1,63	73	49	1,00	2,72	67,84	200

343 The consumption of most of the articles included in the statement is not confined to the well-to-do classes, but is also quite common now among the masses. The increase in the consumption of these articles is

characteristic and interesting, and illustrates the remarkable increase in the purchasing power of the people, as a whole. No more conclusive evidence of a higher standard of living among the masses can be obtained than that afforded by the growth of the imports of sugar, kerosene oil, apparel, boots and shoes, galvanised iron sheets, copper and yellow metal, matches, soaps, and betelnuts.

344 A measure of the progress of India can also be obtained from the growth of its revenue under some of the most important heads, namely, Land Revenue, Salt, Stamps, Excise, Customs, Assessed Taxes and Registration. The following statement shows the revenue collected under these heads yearly from 1890-91 to 1911-12 —

*Statement showing the growth of the Revenue of the Government of India (excluding Burma) under certain important heads*

[In lakhs of rupees]

—	Land Revenue	Salt	Stamps	Excise	Customs	Assessed Taxes	Registration
1890-91	21,80	8,36	3,94	4,53	1,00	1,55	36
1891-92	21,70	8,48	4,13	4,69	1,01	1,58	40
1892-93	22,51	8,49	4,29	4,77	1,02	1,61	42
1893-94	23,18	8,06	4,35	4,99	1,16	1,66	41
1894-95	22,73	8,55	4,46	5,15	3,06	1,72	41
1895-96	23,43	8,71	4,56	5,34	4,09	1,75	42
1896-97	21,32	8,28	4,61	5,19	3,72	1,79	45
1897-98	22,78	8,44	4,67	5,07	3,87	1,79	48
1898-99	24,41	8,94	4,62	5,28	3,80	1,82	43
1899-00	22,57	8,62	4,70	5,30	3,84	1,84	42
1900-01	22,77	8,82	4,81	5,37	4,14	1,87	46
1901-02	23,81	8,76	4,94	5,57	4,77	1,93	46
1902-03	24,00	9,09	4,95	6,06	4,67	1,98	46
1903-04	25,03	7,72	5,08	6,72	4,63	1,69	47
1904-05	24,43	7,87	5,28	7,30	5,08	1,76	49
1905-06	24,14	6,39	5,52	7,70	5,23	1,83	52
1906-07	25,83	6,37	5,65	8,08	5,29	1,98	55
1907-08	24,20	4,82	5,99	8,54	6,15	2,08	60
1908-09	25,54	4,73	6,14	8,81	6,01	2,15	63
1909-10	27,80	4,77	6,46	9,04	6,10	2,15	63
1910-11	27,27	4,55	6,83	9,83	8,27	2,20	62
1911-12	26,97	4,87	6,86	10,68	8,01	2,29	65

345 The average annual Land Revenue collections in the last five years show an increase of Rs 3,98,00,000 or 18 per cent over the standard period. This increase in Land Revenue has been due partly to the increase in prices and partly to an increase in the area under cultivation. It will be shown in dealing with the question of the division of the profits of cultivation between the landlord and the cultivator that the share of the increased profits taken by Government as the supreme landlord, as shown in the foregoing table, is a comparatively small part of the total increase which has accrued from the rise of prices. In the greater part of Bengal and in portions of Madras, Assam and the United Provinces, Land Revenue is fixed in perpetuity. In other parts, the assessments are periodical. In Madras, Bombay and the United Provinces, the ordinary term of settlements is thirty years, and in the Punjab and the Central Provinces, twenty years. During the term of settlement, the whole of the benefit accruing from a rise of prices goes to the people. If, then, the Government share of the profits of cultivation has, as indicated by the growth of their Land Revenue collections, increased by Rs 5,98,00,000, by how much more has the share of the people increased?

develop remarkably, though in the next year there was a decline of 5.5 per cent in the import trade. Since that year, neglecting temporary fluctuations in the import trade and a serious decline in the export trade in 1908-09, when it declined 12 per cent, compared with the preceding year, as the result of the famine of that year, there was a steady increase in both imports and exports until 1911-12, when the total declared values of exports and imports exceeded those of 1901-02 by 75 per cent and 63 per cent, respectively, the increase in the total trade being 71 per cent. The rise has been greatest during the last seven years, during which it has amounted to 42 per cent in the case of exports, imports and the total trade. In the quinquennium ending with 1904-05, the corresponding increases were only 25 per cent, 21 per cent and 23 per cent, respectively, as compared with the previous quinquennium. Apart from an increase in value due to the rise in prices, the volume of both export and import trade has grown immensely, and this cannot but be taken as a sign of great progress.

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*Statement showing the value of the imports of certain articles of Luxury and Convenience in India, excluding Burma*

[ In lakhs of Rupees ]

Year	Sugar and molasses	Kerosene oil	Cotton piece goods	Silk goods	Woollen piece goods	Apparel	Boots and shoes	Copper and yellow metal	Matches	Soaps	Betelnuts	Galvanized iron sheets	Total	Index Numbers
1890-91	3.03	2.15	23.61	72	1.34	96	13	1.13	22	8	36	47	34.20	101
1891-92	2.25	2.07	21.71	1.03	1.23	1.01	12	1.26	27	10	35	37	31.77	94
1892-93	2.14	2.36	19.79	1.15	1.12	.98	11	.84	28	10	28	58	29.73	87
1893-94	2.39	2.98	25.83	1.12	1.48	1.15	12	1.48	28	11	41	47	37.82	111
1894-95	2.52	1.85	26.35	.88	1.29	1.09	12	.90	30	9	47	53	36.39	107
1895-96	2.80	2.67	19.50	1.01	1.10	1.16	13	1.16	29	12	35	72	31.01	91
1896-97	2.81	2.69	23.52	.92	1.28	1.09	11	.70	21	11	38	81	34.63	102
1897-98	4.45	3.38	19.95	.71	.68	.81	10	.87	33	11	47	57	32.43	95
1898-99	3.61	3.01	21.78	.79	.95	.94	12	.66	30	12	58	49	33.35	98
1899-00	3.03	3.10	23.88	.68	1.28	1.02	16	.29	26	14	60	54	34.98	103
1900-01	5.16	3.36	23.60	.83	1.50	.98	15	.58	32	15	59	87	38.09	112
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1903-04	5.46	4.64	25.29	.95	1.49	1.30	20	1.36	38	22	50	91	42.70	126
1904-05	6.33	5.03	30.72	1.20	2.15	1.51	26	1.39	39	23	67	1.37	51.25	151
1905-06	7.05	4.23	33.96	1.07	1.69	1.54	25	.85	47	26	72	1.05	53.16	156
1906-07	8.09	4.48	32.33	1.03	1.23	1.43	21	.85	50	26	1.10	1.72	53.23	157
1907-08	8.54	4.55	38.55	1.32	1.80	1.74	28	1.20	60	33	1.01	1.79	61.71	182
1908-09	10.17	5.36	28.73	1.25	1.88	1.58	26	1.67	62	31	.77	1.73	54.73	160
1909-10	10.63	5.23	30.86	1.33	1.43	1.66	29	1.67	66	35	.84	2.13	57.08	168
1910-11	12.21	5.77	35.26	1.82	2.23	2.18	34	2.20	69	41	1.02	2.20	66.33	195
1911-12	9.52	6.34	38.43	1.60	2.50	2.46	42	1.63	73	49	1.00	2.72	67.84	200

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characteristic and interesting, and illustrates the remarkable increase in the purchasing power of the people, as a whole. No more conclusive evidence of a higher standard of living among the masses can be obtained than that afforded by the growth of the imports of sugar, kerosene oil, apparel, boots and shoes, galvanised iron sheets, copper and yellow metal, matches, soaps, and betelnuts.

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*Statement showing the growth of the Revenue of the Government of India (excluding Burma) under certain important heads*

[In lakhs of rupees]

—	Land Revenue	Salt	Stamps	Excise	Customs	Assessed Taxes	Registration
1890-91	21,80	8,36	3,94	4,53	1,00	1,55	36
1891-92	21,70	8,48	4,13	4,69	1,01	1,58	40
1892-93	22,51	8,49	4,29	4,77	1,02	1,61	42
1893-94	23,18	8,06	4,35	4,99	1,16	1,66	41
1894-95	22,73	8,55	4,46	5,15	3,06	1,72	41
1895-96	23,43	8,71	4,56	5,34	4,09	1,75	42
1896-97	21,32	8,28	4,61	5,19	3,72	1,79	45
1897-98	22,78	8,44	4,67	5,07	3,87	1,79	48
1898-99	24,41	8,94	4,62	5,28	3,80	1,82	43
1899-00	22,57	8,62	4,70	5,30	3,84	1,84	42
1900-01	22,77	8,82	4,81	5,37	4,14	1,87	46
1901-02	23,81	8,76	4,94	5,57	4,77	1,93	46
1902-03	24,00	9,09	4,95	6,06	4,67	1,98	46
1903-04	25,03	7,72	5,08	6,72	4,63	1,69	47
1904-05	24,43	7,87	5,28	7,30	5,08	1,76	49
1905-06	24,14	6,39	5,52	7,70	5,23	1,83	52
1906-07	25,83	6,37	5,65	8,08	5,29	1,98	55
1907-08	24,20	4,82	5,99	8,54	6,15	2,08	60
1908-09	25,54	4,73	6,14	8,81	6,01	2,15	63
1909-10	27,80	4,77	6,46	9,04	6,10	2,15	63
1910-11	27,27	4,55	6,83	9,83	8,27	2,20	62
1911-12	26,97	4,87	6,86	10,68	8,01	2,29	65

345 The average annual Land Revenue collections in the last five years show an increase of Rs 3,98,00,000 or 18 per cent over the standard period. This increase in Land Revenue has been due partly to the increase in prices and partly to an increase in the area under cultivation. It will be shown in dealing with the question of the division of the profits of cultivation between the landlord and the cultivator that the share of the increased profits taken by Government as the supreme landlord, as shown in the foregoing table, is a comparatively small part of the total increase which has accrued from the rise of prices. In the greater part of Bengal and in portions of Madras, Assam and the United Provinces, Land Revenue is fixed in perpetuity. In other parts, the assessments are periodical. In Madras, Bombay and the United Provinces, the ordinary term of settlements is thirty years, and in the Punjab and the Central Provinces, twenty years. During the term of settlement, the whole of the benefit accruing from a rise of prices goes to the people. If, then, the Government share of the profits of cultivation has, as indicated by the growth of their Land Revenue collections, increased by Rs 3,98,00,000, by how much more has the share of the people increased?



Growth of  
consumption of  
Salt

346 Salt Revenue was Rs 8,36,00,000 in 1890-91, but fell to Rs 4,87,00,000 in 1911-12, owing to successive reductions in the rate of duty made in 1903, 1905 and 1907, the details of which have been already given on page 37. The total quantity of salt consumed per head of the population in every succeeding quinquennium, as shown in the statement given below, is, therefore, a better index of the material condition of the people than the amount of the duty realised. These figures show that, compared with the standard period, the consumption per head of population increased by 5 per cent in the quinquennium ending with 1904, by 20 per cent in that ending with 1909, and that the present level is 26 per cent higher.

*Statement showing the Annual Consumption of Salt per head in British India (excluding Burma) during the years 1890—1911*

Year	Quantity (In decimals of a maund)	Year	Quantity (In decimals of a maund)
1890	1499	1900	1587
1891	1557	1901	1560
1892	1576	1902	1588
1893	1510	1903	1638
1894	1556	1904	1687
AVERAGE	1540	AVERAGE	1612
1895	1551	1905	1744
1896	1521	1906	1820
1897	1536	1907	1885
1898	1557	1908	1906
1899	1553	1909	1887
		AVERAGE	1848
		1910	1881
		1911	1983
AVERAGE	1554	AVERAGE	1932

NOTE.—The total quantity of salt sold in a year and which paid full duty, as shown in the "Statistics of British India" Part IV (b) has been taken to be the total quantity consumed in the year, and from the census figures of 1891, 1901 and 1911, the population figures for the other years have been arrived at by interpolation.

Growth of Stamp  
Revenue

347 Stamp Revenue has increased from Rs 3,94,00,000 in 1890-91 to Rs 6,86,00,000 in 1911-12. The largest share of the revenue under this head is contributed by judicial stamps, which may be regarded as a payment for services rendered by costly judicial establishments maintained by Government, rather than as a tax in the proper sense of the word. Still it is a sign of prosperity of the people who indulge in the luxury of litigation. The revenue from non-judicial stamps has also been increasing, which is a fair indication of the growth of business in the country. It may be noted that in years of famine the revenue from court-fee stamps tends to fall because of the necessary self-denial in the pursuit of the luxury of litigation, while the revenue from non-judicial stamps increases owing to an increase of the necessity of borrowing to tide over the period of distress.

Growth of Excise  
Revenue

348 Excise Revenue has increased from Rs 4,53,00,000 in 1900-01 to Rs 10,68,00,000 in 1911-12. The revenue is derived from intoxicating liquors and drugs and is levied in the form of duty on manufacture and of fees from licenses. It should, however, be noted that the growth of Excise Revenue is not so much due to an increase in the habit of drinking or in the use of intoxicating drugs, as to heavier taxation, the suppression of illicit traffic and the growth of population. The Government of India have

repeatedly pointed out that the available information tends strongly to negative the presumption in some quarters that the growth of Excise Revenue is an indication of a development of the drinking habit. The policy consistently pursued has been unmistakably that "the growth of Excise Revenue is to be regarded as satisfactory only when it results from the substitution of licit for illicit manufacture and sale and not from a general increase of consumption." There has been no increase in the use of intoxicating liquors and drugs, but still there has been an increase in the revenue, Government restricting as far as possible the drinking habit by increase of taxation and other preventive measures. The conclusion that can be safely drawn from the growth of Excise Revenue is that there has been an increase in the purchasing power of the classes that consume intoxicating liquors and drugs, especially during the last decade.

349 Customs Revenue should, it is obvious, rise with the growing trade of the country and fluctuate according to the trade conditions of the year. In 1890-91, the total Customs Revenue was Rs 1,00,00,000. In March 1894, the general import duties were imposed and cotton goods were included in the dutiable list in December of the same year. The duty on cotton cloth was, however, lowered from 5 to  $3\frac{1}{2}$  per cent in February 1896, cotton twist and yarn being at the same time wholly exempted. By 1894-95, therefore Customs Revenue rose to Rs 3,06,00,000, and since then gradually to Rs 8,01,00,000 in 1911-12, a part of the increase since 1910-11 being due to increased duties on silver, tobacco and petroleum. Growth of Customs Revenue

350 The Assessed Taxes (Income Tax) have increased from Rs 1,55,00,000 in 1890-91 to Rs 2,29,00,000 in 1911-12, notwithstanding the exemption from the tax of incomes under Rs 1,000 by Act XI of 1903 and the abolition by Act VI of 1902 of the Pandhari cess, a special income tax in the Central Provinces levied on incomes below Rs 500. The receipts from income tax are obtained entirely from non-agricultural incomes and the growth of the revenue from this tax is an index of the prosperity of the classes who earn such incomes. Growth of receipts from income tax

351 The Registration Revenue amounted to Rs 36,00,000 in 1890-91 and to Rs 65,00,000 in 1911-12. This revenue is derived from the registration of instruments of sale and mortgage of property, and of contracts. Though the revenue is comparatively small in amount, its growth is also an unmistakable sign of progress. Growth of Registration Revenue

352 The growth of Post Office business, as indicated in the following statement, is another remarkable sign of the material progress of India, as a whole. During the period under enquiry, the number of post offices has increased by 100 per cent, the number of post-cards by over 320 per cent, the number of letters by 136 per cent, the number of packets by 409 per cent, newspapers by 111 per cent, and parcels by 457 per cent. The number of money orders has grown from 7,435,000 to 27,243,000, or by 266 per cent, while the value has risen from Rs 16,44,00,000 to the enormous sum of Rs 48,71,00,000, or by 196 per cent. The number of Savings Bank accounts has increased from 409,000 to 1,501,000, and the deposits from Rs 6,35,00,000 to Rs 18,90,00,000, notwithstanding a reduction in the rate of interest allowed on Savings Bank deposits and certain restrictions\* imposed on the Growth of Post Office and Telegraph business

\* They have been mostly withdrawn since

total amount to be deposited each year in a single account and on the total

balance of each account to be allowed to carry interest. These are unmistakable signs of the material progress of the country. Similar evidence is also afforded by the growth of telegraph business in India: the number of paid messages having risen from 3,407,000 in 1890-91 to 14,720,000 in 1911-12.

## Statement showing the growth of Post Office business in India

	NUMBER OF POSTAL ARTICLES CARRIED (IN THOUSANDS)						MONEY ORDERS		SAVINGS BANKS			
	Number of Post offices	Post cards	Letters	Packets	Newspapers	Parcels	Number (in thousands)	Value (in lakhs of rupees)	Number of accounts on the last day of the year	Deposits (in lakhs of rupees)	Withdrawals (in lakhs of rupees)	Closing balance (in lakhs of rupees)
1890 91	9,419	101,062	179 678	10,375	24,935	1,902	7,435	16,44	409	2,68	2,42	6,35
1891 92	9,763	112,748	187,871	10,711	25,910	2,109	7 998	17,36	463	3,00	2,53	7,06
1892 93	10,138	119,803	191,212	12 149	26,638	2,170	8,462	18,15	521	3,28	2,79	7,82
1893 94	10,387	131,218	195,644	14,703	26,364	2,339	8,994	19,40	574	3,33	3,18	8,27
1894 95	10,714	143,107	204 043	16,248	28,145	2,562	9,677	20,58	612	3,26	3,35	8,40
1895 96	11,061	153,568	210,600	18,197	28,929	2,577	10,342	21 88	654	3,67	3,29	9,04
1896 97	11,431	166,803	220,147	19,341	29,778	2,709	11,284	23,42	713	4,51	4,22	9,64
1897 98	11,742	179,371	229,426	21,364	31,891	2,966	12,019	25,83	730	3,24	3,85	9,29
1898 99	11,986	189,462	229,672	25 039	32,123	2,515	12,128	26,26	756	3,31	3,44	9,43
1899 00	12,397	206,463	242,406	26,774	30,759	2,604	12,952	27,55	786	3,48	3,54	9,65
1900 01	12,970	218,351	250,858	28 303	32,091	2 679	13,421	28,45	817	3 62	3,51	10,04
1901 02	13,845	236,368	259,324	29,712	31 550	2,991	14 107	29,25	867	4,16	3,83	10,68
1902 03	14,736	253,758	266,800	32,709	32,558	3,472	15,869	30,30	922	4,35	3 93	11,42
1903 04	15,403	272,523	286,823	34,352	34,263	3,942	17,066	32 11	988	4,66	4,10	12,33
1904 05	16,033	299 486	298 221	39,593	37,078	4 541	18,301	33,92	1,059	5,17	4,48	13,41
1905 06	16,775	324,260	320,866	43,719	40,201	4,955	20,296	36 26	1,116	5,11	4,92	13,99
1906 07	17,180	345,166	338,541	46,522	44 046	5,282	21,621	38,72	1,190	5,49	5,13	14,77
1907 08	17,777	362,547	360,973	48,941	48,294	5,884	22,847	41,80	1,263	5,52	5 53	15,18
1908 09	18,399	383,746	384,176	51,084	50,108	6,141	23,878	42,78	1,319	5,23	5,61	15,23
1909 10	18,642	403,597	405,711	52,408	51,396	6,412	24 669	43,57	1,379	5,55	5,37	15,87
1910 11	18,813	418,438	413,678	56,918	49,252	6 862	25,634	46,00	1,430	6,04	5,45	16,92
1911 12	18 801	424,691	424,727	52,765*	52,612	10 598*	27 243	48,71	1,501	8,28	6 81	18,90

## Statement showing the growth of Telegraph business in India

	NUMBER OF MILES		Number of Signal Offices	NUMBER OF PAID MES SAGES (IN THOUSANDS)			VALUE OF MESSAGES (IN LAKHS OF RUPEES)		
	Land	Wire and cable		Inland	Foreign	TOTAL	Inland	Foreign	TOTAL
1890 91	37,070	113,763	949	2,917	490	3,407	35	17	52
1891 92	38,625	120,412	1,001	3,289	520	3,809	42	15	57
1892 93	41,030	126,526	1,100	3,441	540	3,981	41	17	58
1893 94	42,707	134,529	1,224	3,630	555	4,185	42	19	61
1894 95	44,648	138,526	1,302	3,817	574	4,391	44	21	65
1895 96	46,374	143,188	1,461	4,095	642	4,737	47	24	71
1896 97	48,584	148,404	1,563	4,387	691	5,078	48	22	70
1897 98	50,305	155,088	1,634	4,968	745	5,713	69	22	91
1898 99	51,768	160,925	1,719	4,696	753	5,449	51	20	71
1899 00	52,909	171,049	1,851	5,403	834	6,237	61	22	83
1900 01	55,055	182,179	1,939	5,549	900	6,449	67	26	93
1901-02	55,827	190,887	2,006	5,567	909	6 476	62	25	87
1902 03	56,830	200,533	2,051	5,841	901	6,742	65	21	86
1903 04	59,692	212,330	2,127	6 394	913	7,307	64	21	85
1904 05	61,684	227,749	2,189	8 083	1 015	9,098	64	24	88
1905 06	64,730	243,840	2,309	9,354	1,107	10,461	69	23	92
1906 07	67,537	259 948	2,438	10 109	1,186	11,385	73	22	95
1907 08	68,940	271,944	2,544	11,506	1,244	12 750	77	23	1 00
1908 09	70,065	280,595	2,658	11 838	1,169	13,007	77	20	97
1909 10	72,746	287,266	2 762	10 798	1,287	12 085	64	22	86
1910 11	74,828	292,001	2,856	11,673	1,417	13,090	68	25	93
1911 12	76 578	299,343	2,958	13,185	1,535	14,720	77	27	1,04

\* Includes value payable unregistered packets

353 Equally interesting are the figures contained in the table given on page 79 showing the development of railway traffic in India. The total number of passengers has between 1890 and 1911 increased from 114,000,000 to 390,000,000, or an increase of 242 per cent, while the passenger mileage, *i.e.*, the total mileage travelled, has increased from 4,787,000,000 miles to 14,373,000,000 miles, or an increase of 200 per cent. The average distance travelled over by each passenger has fallen from 41.96 miles to 36.87 miles, showing a tendency on the part of the people to travel even short distances by rail instead of on foot, an unmistakable sign of an improvement in their general financial position. No less striking evidence of progress is given by the quantity of goods carried by rail and their ton-mileage. The total quantity of goods carried rose from 23,000,000 tons in 1890 to 71,000,000 in 1911 and the ton-mileage from 3,509,000,000 tons per mile to 13,358,000,000 tons, while the average distance carried has increased from 155 miles to 187 miles showing the gradual linking up of marts in India more and more distant from each other.

Development of  
railway traffic.

354 The following statement shows the growth of life insurance in India, as indicated by the transactions of 17 life insurance companies. Most of the companies in India were requested to furnish statistics, but only a few have supplied them. The remarkable development of life insurance business in India shown by the table well illustrates that the people of India have appreciated, within the comparatively small period under enquiry, the necessity of providing for the future. This also cannot but be taken as a sign of material prosperity of the country.

Growth of Life  
Insurance in India

*Statement showing the number and amount of policies issued by 17 Insurance Companies in India during 1890—1912*

Years	NUMBER OF POLICIES		AMOUNT OF POLICIES	
	Total	Index number	Total	Index number
1890	315	72	11,59,750	74
1891	296	67	12,37,700	80
1892	464	105	16,80,600	108
1893	543	124	15,65,700	101
1894	580	132	21,24,450	137
1895	684	156	22,25,230	143
1896	617	140	16,94,915	109
1897	924	210	23,60,110	152
1898	2,667	607	59,66,010	384
1899	2,063	469	45,91,845	296
1900	2,242	510	51,99,937	335
1901	2,363	538	47,01,755	303
1902	3,173	722	64,21,605	413
1903	4,240	965	81,41,244	524
1904	4,763	1,083	89,23,649	574
1905	4,783	1,088	87,05,893	560
1906	5,394	1,227	97,61,317	628
1907	8,569	1,949	1,40,83,359	906
1908	10,568	2,404	1,78,29,400	1,148
1909	12,696	2,888	2,23,95,980	1,442
1910	18,606	4,232	2,83,03,106	1,822
1911	18,458	4,199	2,84,15,784	1,829
1912	14,723	3,349	2,62,79,307	1,691

## CHAPTER XIII.

## Effects of the Rise of Prices.

## EFFECT ON DIFFERENT SECTIONS OF THE COMMUNITY

Necessity and difficulties of ascertaining numerical strength of different sections of the community

355 In estimating the effect of the rise in prices on the different sections of the community, it is necessary to ascertain the numerical strength of the different sections and to see whether alterations, in recent years, in the distribution of the population among the different occupations afford any indication of the relative prosperity of those following any particular occupation. Such prosperity would attract people from other less lucrative occupations and would cause an increase in the number following the more lucrative ones. The statistics of occupation, when used in conjunction with statistics of production and of wages, are also a useful index of the prosperity or the reverse of the various classes of the population. But it has already been pointed out that owing to a radical change in the method of the classification of occupations adopted in the last census, as compared with the previous censuses, no comparison can be made with the figures of the census of 1891. A comparison has, however, been attempted between the figures of 1901 and 1911, but here also the discrepancies are very considerable and allowances have to be made because the sources of error are great. They have been described in detail in Appendix K. The chief causes of the discrepancies are (1) In 1901, a very large number of persons were insufficiently described and were classed under the head "Labourers and workmen otherwise unspecified," on the present occasion, owing to greater care shown by the enumerators, the number under that class has been considerably reduced. (2) In 1901, persons who sublet some or all of their lands to tenants were returned as rent-receivers, whereas in 1911 they have been classified as ordinary cultivators. (3) In determining the chief means of support in the case of dual or mixed occupations, different methods have been followed in the two censuses. (4) Public servants were shown under one class in the census of 1901, whereas in the census of 1911 they have been distributed under different classes according to the nature of the work on which they are employed, and (5) greater care has been taken in the census of 1911 to distinguish between makers and sellers.

Comparison between censuses of 1901 and 1911

356 The following statement shows the classification by occupation of the total population of India, according to the censuses of 1901 and 1911 —

*Distribution of population by selected occupations—1901 and 1911*

[ Omitting 000.]

Occupations	TOTAL POPULATION SUPPORTED IN INDIA		PERCENTAGE BY CLASSES AND SUB CLASSES	
	1901	1911	1901	1911
A — PRODUCTION OF RAW MATERIALS	152,107	170,599	69 1	73 8
I — Exploitation of the surface of the earth	151,906	170,161	69 0	73 6
1 Pasture and agriculture	150,859	168,722		
Income from rent of agricultural land	34,427	17,917		
Ordinary cultivators	87,271	114,206		
Farm servants and field labourers	24,108	30,725		
Growers of special products	1,366	1,386		
Raising of farm stock	2,578	3,327		
Agents, etc	1,109	1,131		
2 Fishing and hunting	1,047	1,439		
Fishing	1,012	1,406		
Hunting	35	33		
II — Extraction of minerals	201	398	1	2